AUGUST 1958

FLOW

THE FIRST MAGAZINE OF MATERIAL HANDLING



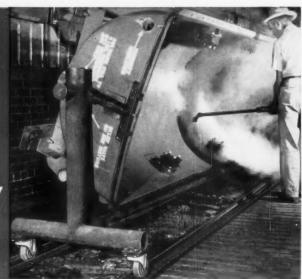


AN INDUSTRIAL PUBLISHING CORPORATION MAGAZINE

... The original publication of the material handling industry ... preferred by more than 40,000 identified buyers of material handling, packaging and shipping equipment and supplies.



Cut Costs of Handling Heavy Bulky Loads



Faultless Casters in U tracks easily guide huge reuseable jet engine storage tanks through refinishing and refurbishing operations.

Faultless Handles the Tough Jobs!

Medium - Heavy **Duty Swivel** Plate Caster. Note 2 complete Bearings for easy swiveling action. Special high tensile alloy construction assures extreme strength and high ductility, to withstand shocks. Easily handles loads up to 1500 lbs. per caster. Plaskite (hard tread) roller bearing wheel shown will not chip, is impervious to water, brine, oil. Many other styles of cushion and hard tread wheels are available in this versatile Faultless Caster Series.

By combining workstands and materials handling equipment as one Faultless Castered unit, costs are substantially lessened at Sherer Manufacturing Co., Oklahoma City, Oklahoma. These workstand-dollies, equipped with four Faultless 600 Series Casters hold storage tanks through almost 90% of plant operation. Faultless Casters can solve your tough materials handling problems with minimum maintenance and manpower costs.

ASK YOUR DISTRIBUTOR

Your nearby Faultless Industrial Distributor maintains a substantial inventory of Faultless Casters for immediate delivery. He and one of the strategically located Faultless Sales Engineers are available to work with you on every handling problem in your plant. Both are listed in the Yellow Pages, under "Casters," beneath the Faultless heading.

Faultless Caster Corp.

Evansville 7, Indiana

Send copy of 20 page condensed Caster catalog 157G, no obligation

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CATALOG

Address



World's First Pneumatic Industrial Tire with Steel Cord Protection



Built-in "Steel Barrier" provides unequaled puncture resistance.

Combine the strength of steel with the smooth-riding, sure-tracking characteristics of the finest pneumatic tire ever made—and you have the revolutionary new STEELGUARD Industrial Tire from Goodyear.

Now, regardless of scrap conditions, a pneumatic-tired lift truck can bring the economies of modern materials handling to *any* area of your plant.

The reason: STEELGUARD is virtually puncture proof, thanks to a crisscrossed

web of steel cables locked firmly in place by special rubber compounds.

Notice, too, the heavy lugs on this tire—for "plus" protection from snags and cuts. STEELGUARD is even recommended for brickyard use—formerly "sure death" for pneumatics.

Add to this—longer tire life, better sidewall flexing, greater stability, smoothness and flotation.

Get all the facts on STEELGUARD—available now in 6 sizes—from your Goodyear Dealer. Or, write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Use the Right Tire for the Job - Buy and Specify



More tons are hauled on Goodyear Truck Tires than on any other kind

INDUSTRIAL TIRES
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No damage to floors...



with durable

DISOWHEEL

here's how steel wheels, normally carrying extreme overloads, broke up concrete floors in a warehouse (as illustrated)... necessitating continual rearrangement of aisle and storage space and costly, time-consuming repairs. To eliminate such nuisance and expense, management chose Disowheel.® After six months' heavy duty: no damage to concrete floors, no splintering of wooden surfaces!

The secret of Disowheel's floor saving ability is in its *tire*. Made of Disogrin®—a polyurethane elastomer "strong as steel, resilient as rubber"—this tire *won't* mar floors . . . *resists* abrasion . . . lasts 4 to 10 times longer than rubber and most synthetics . . . *boosts* load capacity . . . *cuts* power consumption as much as 32%.

For full facts on how Disowheels keep merchandise moving, write us. And next time specify Disowheel—available in all standard sizes, to keep your industrial trucks running at top efficiency!



510 SOUTH FULTON AVENUE, MOUNT VERNON, N.Y.
OFFICES: LOS ANGELES, BOSTON, CHICAGO, DETROIT, PITTSBURGH
DISTRIBUTORS EVERYWHERE.

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reader's guide to



for August 1958

COVER: Foundrymen control batches of molten steel by handling and weighing them at the same time. It illustrates the weighing-on-the-run principle explained in this month's cover article, "Weighing While Handling". You will see weighing devices that keep a watchful eye on a great variety of products without interrupting production flow.

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Convair learns that cutting packaging costs can be a false economy

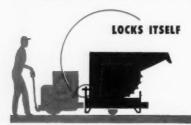
79 FIBRE TUBES MAKE RODS RIDE RIGHT

Here's how the Kirsch Company beat the shipping damage jinx

readers' guide continues on next page







Cuts handling time ... and costs...in half

Here's the fastest, lowest cost method ever devised for handling all kinds of bulk materials . . . hot or cold . . . wet or dry . . .

Punch Press Parts . . . Cinders Hot Forging or Castings . . . Scrap Metal Pickles . . . Soybean Meal

A Roura Hopper fits any standard lift truck attached or detached in seconds can't slip off. One man does the entire job. Picks up loaded Hopper with lift truck transports it to destination . . . flips the latch . . . and the Hopper automatically dumps its load, rights itself, locks itself. Cuts costs 50% or more.

They're sturdily made of heavy 3/16" steel plate with continuous arc-welded joints. Five sizes from ½ to 2 yards capacity. Fitted with live skids or a choice of wheels. Standard models available for immediate shipment from stock. For special applications they can be made of stainless steel or galvanized.

Self-Dumping

WANT MORE FACTS?

We'll give you full details without obligation . . . if you'll attach this coupon to your letterhead . . . sign your name . . . and mail to . .

ROURA IRON WORKS, INC. 1411 Woodland Ave., Detroit 11, Michigan

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volume 13 number 11

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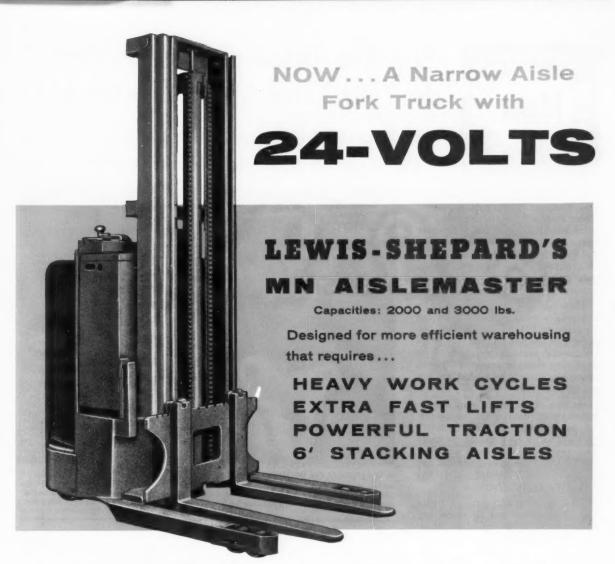
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NEXT MONTH IN FLOW

You will find the first of a series of articles on problems in handling bulk materials . . . also equipment for solving them. For the dreamer, a look at handling requirements for the space age. Watch for an exclusive report of an extensive testing program which compares characteristics of a number of types of resilient cushioning materials.



Modern warehousing demands a lift truck that moves faster, lifts faster and works harder . . . Now you have it in Lewis-Shepard's powerful new 24-Volt Model MN Aislemaster!

With its extra battery capacity, heavy duty 24-VOLT system and high pressure hydraulics, this new truck provides increased efficiency and more work capacity for full shift operation—still maintaining narrow aisle maneuverability.

Traction and lift motors are both heavy duty

with extra capacity. The lift motor and exclusive L-S high pressure hydraulic system are especially designed to give extra fast lift speeds for high stacking operations.

4 speeds forward or reverse, 3 braking systems and many other operating features make the powerful new AISLEMASTER a "must" for modern, efficient warehousing. For the complete story on this 24-Volt narrow aisle truck, send for new Circular 35K TODAY.





The MASTER® Line — The COMPLETE Line of Materials Handling Equipment

LEWIS-SHEPARD PRODUCTS, INC., 138 Walnut Street, Watertown 72, Mass.

Gentlemen:

Please send me your 24-VOLT MODEL MN CIRCULAR 35K

Please have an L-S representative call

NAME

TITLE

COMPANY

ADDRESS

Circle No. 84 on Reader Service Card for more information



Can You Discover New Profits In Your Third Space Dimension?

Rapistan[®] Will Take You Into the "Air Age" of Materials Handling

How many cubic feet of space are you wasting? Can they be used? There's an answer, when you consider available plant or warehouse space as a "cube" rather than "in the flat." And by making sound use of this overhead storage or work space, you can measurably increase your profits.

How do you go about it? By studying ways this unused space can be made to STORE and MOVE materials. In the process, you may avoid costly new plant construction or remodeling thought necessary to gain space you already own—but are not using.

At one of our own Grand Rapids plants, with its 120,000 square feet of space, we thought it was necessary to build more floor space. By study and analysis of our space and flow of materials, we gained over 40,000 square feet WITHOUT ADDING TO THE BUILDING!

This came about through better use of our floor and air space, and through use of sound plant layout and materials handling principles. We gained new benefits through "work positioned inventory,"



"SMOKES" GO UP TO CEILING, in Rapistan Flow Rack. This wholesale cigarette distributor makes the most of "air rights" in his warehouse. He also has positive inventory control. First-infirst-out stock rotation, provided by Flow Rack, keeps his products prime and fresh.



A WAREHOUSE ON WHEELS! Using ordinary storage methods, this "point-of-use" supply of motors would occupy hundreds of square feet of valuable production floor space. But with Rapistan live storage, they are concentrated in a compact area covering only a few square feet of floor. Motors rest on pallets which may be rolled out on extended wheel track for easy unloading.

"perimeter supply," straightline flow, reduced central stores, better use of available air rights, and improved safety practices.

Our own Rapistan Flow RackTM and overhead conveyors accounted for very notable space savings. Flow Rack, for example, multiplies the storage capacity of a given floor area by using space up to ceiling height. It reduces aisle space usually needed for fork truck handling of materials stacked on pallets.

Where movement as well as storage was needed, Rapistan-Keystone overhead trolley conveyor was installed. This now leaves floor space free for manufacturing operations.

Before you spend precious capital for additional space, machinery or manpower, explore the possibility of finding that extra space in your present plant. Rapistan can help you.

The cost of conveyor equipment to gain this extra space use is only a fraction of the cost of new construction. What's more, investment in this equipment can be amortized in a far shorter time than buildings. This is sound management policy.

If you'd like to see how Rapistan has helped businesses like yours make better use of their plants, circle No. 10 on the Reader Service Card.

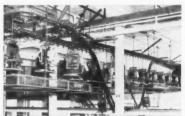
New and Improved Power Turn Table

Rapistan now offers you a new and improved Power Turn Table. This is a more efficient way to transfer your materials between adjoining lines of power or gravity conveyor.

The new Turn Table model features an improved power drive, and a die-formed table top of heavy steel plate. If you would like a complete specifications bulletin showing dimensions and construction features, circle No. 11 on the Reader Service Card.

Overhead Conveying Ideas To Improve Efficiency, Save Space

Parts flow through the air with the greatest of ease on Rapistan-Keystone, Inc. overhead trolley conveyor, in processing, assembly, receiving, storage and shipping operations.



PROGRESSIVE ASSEMBLY—Over 5,000 feet of Rapistan-Keystone overhead conveyor provides storage and moves sub-assemblies between operations without manual effort, in one of the world's largest typewriter plants. Floor space below is free of congestion.



PROCESSING PARTS — Rapistan-Keystone overhead conveyor moves ports through successive machining, cleaning plating and rinsing in one of the "big three" automotive plants. The timing is automatically controlled by the speed of the conveyor.



PACKAGING — Rapistan-Keystone overhead conveyor automatically delivers multiple sizes of cartons as needed to seven packaging stations, saving space, time and costs while solving a complex packaging problem.



POWER-PUSH SYSTEMS — by Rapistan-Keystone, Inc., offer all the advantages of controlled interruped overhead flow that are inherent in "power and free" installations, at a fraction of the heavy duty conveyor cost.

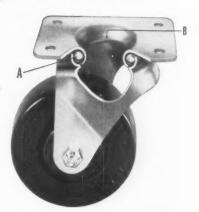
For details of these actual installations, circle No. 12 on Reader Service Card.

Rapistan Removes the King Pin To Create This Stronger, Easier-Swiveling New Caster

This is industry's finest "no-kingpin" caster — our new 3100 Series! In a single ball race caster, this new series gives you the performance advantages of double ball raceway construction.

It's stronger! It has unusually high superiority in strength and endurance. Tests have proved it! We're very proud of this new series.

It's easier swiveling! There's no binding and friction at the king pin point. Rapistan's unique design eliminated this trouble spot. For easy swiveling action under heavy loads, the hardened raceways have tough resistance to ball indentation. For fully illustrated information on this latest caster development, circle No. 13 on the Reader Service Card.



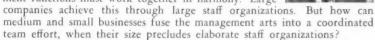
A. MULTIPLE-ACTION RACEWAY locks horn and top plate, gives you far better load distribution over the entire raceway for longer life.

B. RAPISTAN'S NO-KING-PIN DESIGN eliminates metal-against-metal binding and friction at the king pin. Result — you get the easiest swiveling action ever engineered into a single ball race caster.

NEW MANAGEMENT CONCEPT

by John McLaughlin, editor, Materials Handling in Canadian Industry

Many companies today are finding it harder and harder to maintain a decent profit. Higher costs and lower profits seem to be the order of the day. To keep a business efficient and profitable now, all the management functions must work together in harmony. Large



For these smaller firms, the "Technics" approach offers a practical and economical solution to the problem. It works through the medium of materials handling to coordinate all management functions for increased effectiveness.

Even though a given management function may appear to be far removed from actual contact with a handling problem, it is influenced to a significant degree by the proper use of materials handling equipment and principles at the scene of the problem.

In many firms, materials handling is the single element common to all management problems. Taking this as your point of view can be the means of unifying and coordinating your efforts to achieve lower costs and higher profits.

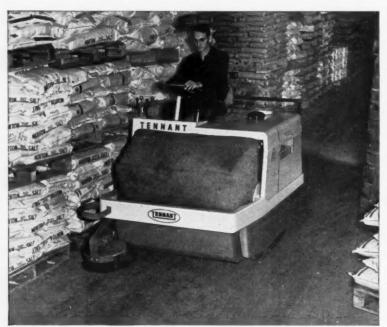
New Idea Handbook Explains Coordinated Materials Handling



Over 70 actual conveyor installations in manufacturing, wholesaling, retailing and service industries are illustrated and described in this new handbook of materials handling ideas. Send for your copy today. Circle No. 14 on the Reader Service card.



The RAPIDS-STANDARD CO., Inc. 336 Rapistan Bldg. Grand Rapids 2, Michigan



"Aisle-designed" Tennant "80" works efficiently; sweeps aisles up to $8 \, 1/2 \, 1$ wide in one round trip

How many dollars will this TENNANT "80" save you daily?

In a medium-size Cleveland plant, the "80" Power Sweeper saved \$21 a day in labor costs alone. *That's* \$5,460 yearly!

The exact saving you can expect in your plant depends on factors such as area to be swept, obstructions, and present labor costs.

Time studies show the Tennant "80" replaces 3 to 15 men with push-brooms. It can sweep over 100,000 sq. ft. an hour in open areas. Under typical conditions, it's not unusual for the "80" to pay for itself in a year's time.

Provides clean, dust-free pickup. With its powerful brush-and-vacuum system, the "80" picks up litter that would be missed with hand sweeping. It easily lifts dirt from cracks; handles heavy, bulky debris as easily as light material. Sweeps 42" to 53" path.

Starts, stops, reverses instantly without shifting gears. Dirt hopper holds up to 800 lbs. Dumps hydraulically.

Would you like an estimate of the savings *your* plant may make ... based on a personal survey of your needs? *Write today*. You'll be under no obligation,



Industry's Most Widely Used

POWER SWEEPERS

G. H. TENNANT COMPANY, 7071 N. Lilac Drive, Minneapolis 22, Minnesota



LP gas-powered Model 50 Sweeper Gasoline-powered Model 50 Sweeper

Model 36 Electric Sweeper

SPECIALIZED MAINTENANCE EQUIPMENT

POWER SWEEPERS • FLOOR MACHINES • SCARIFIERS • ROOF SCRAPERS • CONCRETE ROUTERS

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to the EDITOR

Careers in Material Handling:

To FLOW:

I have been reading your magazine for about a year now and have become a "true believer" in material handling.

I have a request which I hope you can grant. I have six years of experience selling shelving (three in storage; three in display) coupled with a degree in mechanical engineering. How and where is employment possible in the field from the standpoint of plants having a need for handling assistance? That is to say, I am not interested in material handling in which planning is done only as a means to selling a product (shelving, trucks, etc.) and carried through only to the successful sale.

The above might be most simply asked as: what are the career opportunities in the field of material handling?

Any information, thoughts, or suggestions would be appreciated.

Donald H. Caster New Orleans, La.

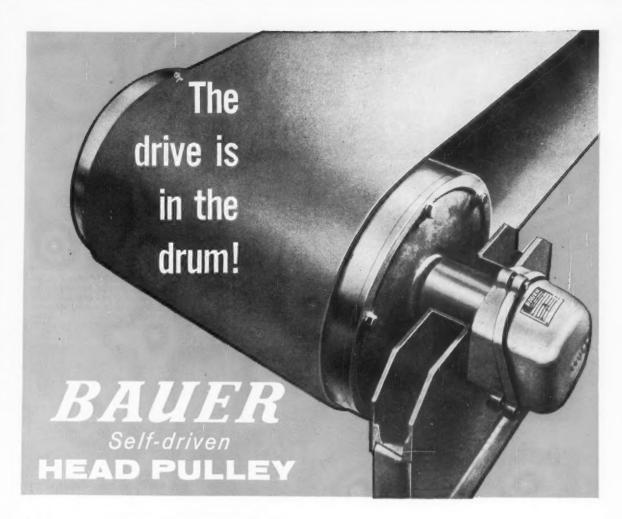
Reader Caster would do well to get hold of a copy of the book, "Career Opportunities in Material Handling." This is published by The Material Handling Institute, Inc., 1 Gateway Center, Pittsburgh 22, Pa.

Safety Lauded Again

To FLOW:

Congratulations on the fine series of articles on safety in your April 1958 issue. As a former industrial engineer now engaged in safety work in an industry whose major operation is material handling, I could not agree more with the viewpoints expressed, that safe handling is the most efficient handling.

On page 111, in the article concerning Dow Chemical Company's Midland Division, you mentioned



Motor, gears, all moving parts integrally designed in a compact, efficient, one-piece conveyor drive, to give you all these advantages:

- No space wasted on overhead V-belt set-ups. No maintenance catwalks.
- No power lost, because there's no transfer of power from external drives.
- No time spent on V-belt maintenance. Completely enclosed motor with sealed bearings cuts all service to a minimum.
- No layout problems easy installation.

SAFE

Bauer Self-driven Head Pulley eliminates all hazards due to exposed chains, sprockets, etc., and eliminates the need for space-consuming and time-consuming safety measures.

PROVED

From ¼ to 15 H.P. in all standard widths, Bauer Self-driven Head Pulleys are moving raw materials, products of light and heavy industries, agricultural produce and packaged goods throughout the world. Service and parts are readily available in the U.S.

Ask your conveyor system manufacturer, or write for literature or dealership information to:



Totally enclosed • Fancooled • High torque rotor • Foot or flange mounting • 1/50 to 30 H.P. FACTORY REPRESENTATIVE

Georg von Opel Corporation

Circle No. 137 on Reader Service Card for more information



Sweet and Gentle...The Story at Wayne Candies

Wayne Candies, Inc. Fort Wayne, Indiana, recently installed a Wey-Mor automatic weighing and bag-filling machine to provide gentle treatment to a wide variety of candies. The equipment is used to handle items Wayne manufactures as well as those it re-packages under its own label. Some of the items handled on the Wey-Mor include Flavored Puffs, Cinnamon Imperials, Rum & Butter Toffee, Pineapple Slices, Rainbow Mints and a wide variety of other items.

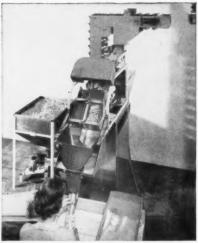
Since installing the equipment, Wayne Candies has increased its production enough to save 10% on bagging costs and has reduced material losses by approximately 50%.

Extremely smooth, fast delivery is particularly important to assure perfect package appearance of a fragile candy like Wayne's Flavored Puffs. Wey-Mor meets all requirements because it features a vibratory feed along its entire length, not just at the bulk and dribble point. This eliminates friction and breakage of the candy.

Wey-Mor will be a "sweet" addition to your packaging operation! See how it can improve your product's appearance and cut your production costs. Write for full information.



Write for Illustrated Wey-Mor Folder that demonstrates true flexibility in productionline weighing.



Close-up shows detail of Lynch Wey-Mor. Vibratory feeder brings product forward to the bulk (2 outside channels) and dribble (center channel) point. Machine is quickly adjusted for any amount from 8 to 16 ounces . . . automatically discharges when proper weight is reached.



Wayne's packaging team includes a Lynch Robo-Lift which is synchronized with the Wey-Mor scale to assure a steady flow of candy. One girl keeps hopper filled, one handles filled bags, one labels them and another cases the finished product.



These are among the items Wayne Candies, Inc. packages with their Wey-Mor Automatic Weighing Machine: Flavored Puffs, Cinnamon Imperials, Rum & Butter Toffee, Pineapple Slices and Rainbow Mints are among the hundreds of varied items bagged on this high speed machine.





Today's industries need Gerlinger Continuous Operation

Give Your BIG Jobs to Gerlinger!

ries all dead weight of load-protects differential housing against strain. An exclusive reduction gear prevents axle wear and tear.

Gerlinger Stationary Load Axle car-

Gerlinger Torqmatic Drive safeguards engine from damaging shocks, prevents stalling, eliminates gearshift guess and lessens driver fatigue. Extra operating ease is assured when Gerlinger Power Steering is added.



Gerlinger Material Carriers with copacities up to 60,000 pounds are more popular than ever throughout industry -handling steel, paper, chemicals, timber, lumber and other products for factories, mills and shipping docks. This heavy-duty fork lift truck is loading 30,000 pounds as easily as you move a paperweight. The giant Gerlinger is a pneumatic-tired Model H-40 with the industry's greatest lifting capacity. It is built to handle 20 tons just as smoothly, with maximum savings in handling costs.

Gerlinger Job-Proved features make it possible for the operator to do a bigger day's work with less fatigue. Features like pivotal-mounted steering assembly, counter-active weight distribution, instant fingertip lift-tilt

control and floating type mast action are some of the advances that put Gerlingers in a class by themselves.

If handling up to 40,000 pounds of products, parts or raw materials is practical in your production operation, don't fail to look at the performance records established by these Gerlinger fork lift trucks. Send for latest published data showing why you get unmatched savings—and require less downtime with far less maintenance cost — through Gerlinger continuous operation.

Leaders for 39 years in building Fork Lift Trucks and Carriers



 Gerlinger Carrier Co., Dallas, Oregon is a subsidiary of Towmotor Corporation, Cleveland, Ohio

Send free	Gerlinger Fork	Lift Truck
literature	with specs	

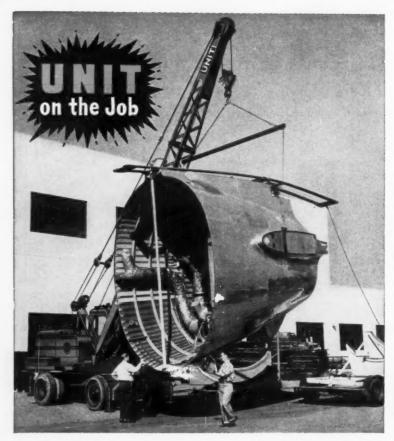




Company______Address_____

Mail to GERLINGER CARRIER CO., Dallas, Oregon

Circle No. 134 on Reader Service Card for more information



picking up

the easy way

Typical of the powerful "pick-up" ability of UNIT Cranes is the above performance . . . loading a giant aerial "fish" or tail-stub assembly onto a truck trailer, Inside this huge stub, two jet-like gasoline heaters will be installed, with heating capacity comparable to that required to heat 12 six-room homes! UNIT torque drive provides full, steady, nonstalling power . . . greater lugging power . . . elimination of shock loads on machinery. It will pay you to investigate these and other UNIT advantages. Write for Bulletin L-302.

531 West Burnham Street . Milwaukee 14, Wisconsin





the ONE-engine, ONE-man Unit . . self-pro-pelled, travels anywhere, rides on rubber, quick-ly convertible, fast, reliable.



1/2 or 3/4 YARD EXCAVATORS... CRANES UP TO 20 TONS CAPACITY CRAWLER OR MOBILE MODELS . . . GASOLINE OR DIESEL



Models Convertible to ALL Attachments

a metal rack that holds drums up at an angle so they can be quarterrolled with ease. Would it be possible to obtain more information on this device, or perhaps a picture or drawing? I would appreciate it very much.

> J. L. Morrow Grace Line New York 11, N. Y.

The Dow Chemical Company has been kind enough to send a complete description of the rack to Reader Morrow.

2-Way Radio Catches On in Italy

To FLOW:

I am an American consultant who has been working in European industry for the past 61/2 vears.

I am writing to tell you that I found the article on Use of 2-Way Radio in the January 1958 copy of FLow very helpful in my work in Italian industry.

The information obtained in the article has helped to convince the Italians as to the profitability of using radio on their tractors, fork trucks, and mobile cranes.

Every issue of FLOW is of interest and value, and helps me keep in touch with the developments in the States.

> Harry E. Stocker Material Handling Consultant Genova, Italy

Thanks for the sweet words from Italy. It's a pleasure to see our influence spreading overseas.





The New

COFFING Duik Lift

COIL CHAIN
ELECTRIC HOIST

"Pistol Grip" push-button station permits easier handling of loads

Without shifting his grip, an operator can depress the up-down buttons of the "Pistol Grip" push-button station and at the same time pull a trolley mounted hoist along the beam to another position—a strain cable is incorporated in the control cord.

Convenience is coupled with safety, since the push-button station is made of non-conducting, impact resistant plastic; the push-buttons are mechanically interlocked; and the control circuit is limited to 115 volts, regardless of hoist voltage.

Coffing Quik-Lift hoists are available in 20 models ranging from ¼ to 2 tons in capacity. Aluminum housings make them lightweight and easily portable, yet strong and durable. Special features include instantaneously releasing magnetic-type brakes, five-pocket load sheaves for reduced chain wear, and simplified wiring systems which permit motor voltage changes by shifting only seven quick connect terminals.

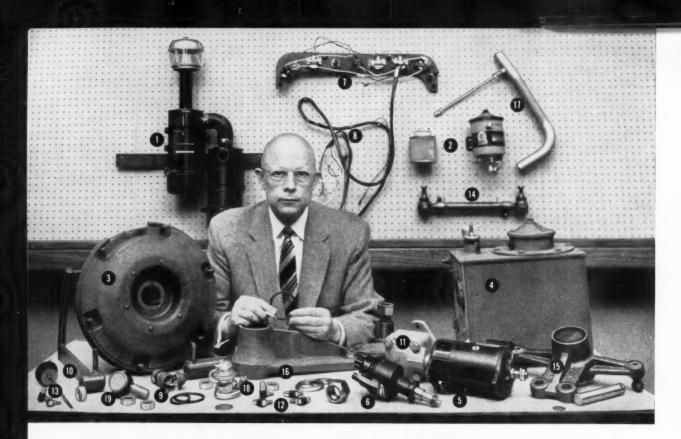
The new Coffing Quik-Lifts are the outstanding hoists in their size range from the standpoints of convenience, durability and economy. For details, consult your Coffing distributor, or write for Catalog ADH-65.

Circle No. 145 on Reader Service Card for more information

COFFING HOIST

DUFF-NORTON COMPANY

821 Walter Street . Danville, Illinois



"Why are so many PROTECTIVE features engineered into the new H-25 PAYLOADER?"

This question is frequently asked of Ralph Beyerstedt, Executive Vice President of The Frank G. Hough Co. because of his more than twenty years of experience in charge of engineering.

"During the development of the H-25," Mr. Beyerstedt explained, "as soon as it became evident that we were going to obtain the increased capacity, production, ease of operation, speed and mobility we sought, our engineers then gave major attention to protective features for operational insurance against wear, maintenance, abuse, downtime and the like.

"The more than 10,000 small HA "PAYLOADER" tractor-shovels that we have produced for steel mills, foundries and chemical and fertilizer plants operate under conditions which continuously subject the machines to dust, dirt, powder and foreign materials.

"Because these are sources of major headaches for owners and operators," said Mr. Beyerstedt, "we have given extra special consideration to elimination of the problems they cause.

Dozens of Protective Features

"Starting with the *triple* air cleaning system (1) we have a precleaner and dual oil-bath air cleaners for engine intake, and crankcase breather tube (17).

"Next, each of the three oil systems is equipped with a cartridge-type oil filter (2). These take care of the engine oil, the hydraulic-system oil and the power-shift transmission and torque converter oil.

"The self-adjusting, hydraulic service brakes (3) are sealed and the parking brake is enclosed in the transmission and operates in oil for greater dependability.

"The reservoir (4) of the closed, pressure-controlled hydraulic system has built-in cartridge-type filter and *sealed* dip-stick."

In discussing the components of the electrical system, Mr. Beyerstedt said, "There is a 12-volt system with the battery grounded direct to the starter housing; a non-vented, sealed generator (5); sealed ignition distributor (6); shock-mounted instrument panel (7) with solder-coated terminals and a plastic-coated wiring harness (8); sealed circuit breaker together with sealed ignition and starter switches (9) plus clutch-pressure warning device (18).

"Sealed teflon bushings are used extensively throughout with brake and transmission disconnect mechanism (10) and valve control mechanism (11).

"These sealed ball joints (12) are used with gearshift linkage and sealed ball joints of a different size (13) are used with the accelerator linkage.

"The steering linkage uses sealed ball joints on the tie rods (14), and on the drag link (19). The steering bell crank (15) is sealed, also the spindle and kingpin assemblies.

"The boom arm mechanism has tapered roller bearings and dust covers on the bell cranks (16) and sealed mated bronze and steel bushings plus O-ring seals at all major pivot points."

Now, What About Production?

The carry capacity of the H-25 "PAYLOADER" is 2,500 lbs.—25% greater than has ever before been available in a tractor-shovel of its size and maneuverability, yet it easily loads and unloads box cars with narrow 6-foot doors. It is the only loader in its size range with *complete* power shift transmission—having 2 speed ranges forward and 2 in reverse. Powersteer is also standard so that operating speed and

handling ease is most favorable to all-out production all day without operator fatigue.

Other plus features of the H-25 that mean more production, less maintenance and longer life are the exclusive power-transfer differential, wet-sleeve overhead valve engine, full-shift fuel capacity, 4,500 lbs. of bucket breakout force and 40° bucket tip-back at ground level.

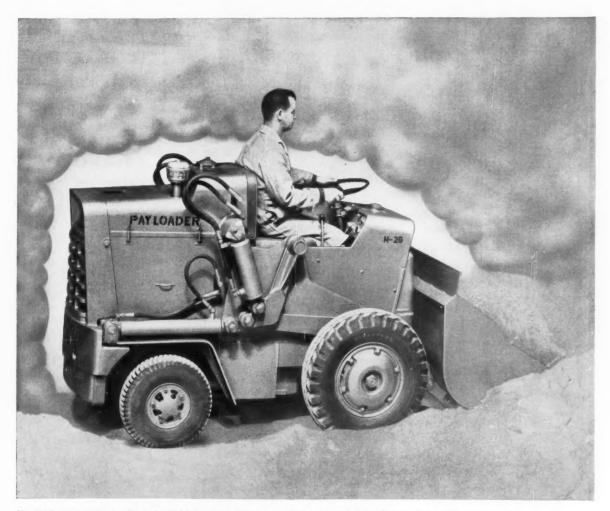
Your "PAYLOADER" Distributor wants to show you how the greater capacity, speed and handling ease of the H-25 can cut your bulk-handling costs. Ask him about Hough Purchase and Lease Plans too. The Frank G. Hough Co., 731 Sunnyside Ave., Libertyville, Ill.

Modern Materia
THE FRAN

Modern Materials Handling Equipment

THE FRANK G. HOUGH CO.





The H-25 "PAYLOADER" is effectively shielded against dust, dirt and foreign materials by dozens of protective components.

put your upper space to work!

get your materials off the ground with **EMIRACKS**



you can stack or ship anything in any industry on **EMI RACKS**



COMPLETE METAL WORKING FACILITIES INCLUDING . . .

TUBING—Square, Round, Rectangular and special shapes

WIRE MESH—All Gages
SPECIAL FABRICATIONS

Write for complete catalog!

EQUIPMENT

21552 HOOVER ROAD DETROIT 5, MICHIGAN

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August 11-13

Western Packaging and Material Handling Exposition Civic Auditorium San Francisco, Calif.

September 7-20

First Annual Packaging Training Conference Industrial Management Center Lexington, Mass.

September 15-19

The Instrument Society of America 13th Annual Instrument Automation Conference and Exhibit Convention IIall Philadelphia, Pa.

September 22-24

Meeting
The Material Handling Institute, Inc.
The Greenbrier
White Sulphur Springs, W. Va.

September 22-24

Standards Engineers Society 7th Annual Meeting Benjamin Franklin Hotel Philadelphia, Pa.

September 23-26

Association of Iron and Steel Engineers
Iron and Steel Exposition
Cleveland, Ohio

September 28-30

Associated Traffic Clubs of America Annual Trade Show San Francisco, Calif.

September 30, October 1-2

Fourth Annual Joint Military-Industry Packaging and Material Handling Symposium Washington, D. C.

October 14-16

Society of Industrial Packaging and Material Handling Engineers National Industrial Packaging, Handling and Shipping Exposition The Coliseum Chicago, Ill.

November 4-6

Packaging Association of Canada Canadian National Packaging Exposition Automotive Building, Exhibition Grounds, Toronto, Ontario

November 17-20

1958 International Soft Drink Industry Exposition Atlantic City, N. J.

D



HUGHES-KEENAN EXECUTIVES (left to right) Wesley Hartley, Service Supervisor; Harry A. Humes, Secretary-Treasurer; Kenneth F. Hubbard, Purchasing Agent check specifications of the "Roustabout" Model VH-10, 5-ton hydraulic motive crane (background) powered by Chrysler Ind. 30 Engine which also powers 3, 4 and 6-ton models. 10 and 12½ ton models are powered by Chrysler Ind. 32 Engines.

why Hughes-Keenan Powers with Chrysler Industrial Engines

The "Roustabout" is a highly maneuverable motive crane especially designed for tough work in close quarters—industrial plants and yards, railroad yards, scrap yards. At the heart of this versatile crane is a Chrysler Industrial Engine—selected by Hughes-Keenan because it stands up under the rugged work demands better than any competitive engine—with far less maintenance. It is economical to operate—whether moving from job to job at 15 m.p.h. or idling in the yard for long periods. Equally important, Chrysler's great service and parts network assures Hughes-Keenan customers minimum losses from down time.

ROUSTABOUT has an extremely short turning radius and a rotating boom; all operations can be performed simultaneously or independently. Powered by Chrysler Ind. 30 Engine, available with Torque Converter.



Chrys er Industrial Engines

INDUSTRIAL ENGINE DIVISION

. CHRYSLER CORPORATION

Circle No. 32 on Reader Service Card for more information





The Only (Approved EXPLOSION PRO

Walkie & Small Rider Type Trucks Built

Now MOTO-TRUC has developed a small truck design to meet Type EX — Class I — Group D Explosion Proof Specifications.

■ Moto-Truc has built the world's first small truck drive unit conforming to the Underwriters' Laboratories Explosion Proof Specifications.

Designed for maximum safety in the most hazardous locations - this type truck will provide mechanized handling for refineries, paint and chemical plants, mines and any other installation where vapors or fumes are present in explosive quantities.

All switches, motors and wiring are sealed in conduits or enclosures especially designed for this demanding application. A unique battery arrangement permits flexible speed control without heat producing resistance boxes.

All MOTO-TRUC Walkie and Ride-A-Man models are now available with this explosion proof drive. Write for complete details.



A view of an explosion proof truck with covers removed.

- 1. Sealed drive unit.
- 2. Special electrical conduit.
- 3. Explosion-proof electrical junction box.

Write For These Moto-Truc Catalogs — 56W on Walkie Models; 56R on Ride-A-Man Models.



Largest Exclusive Manufacturers of "Walkie" and "Ride-A-Man" Trucks

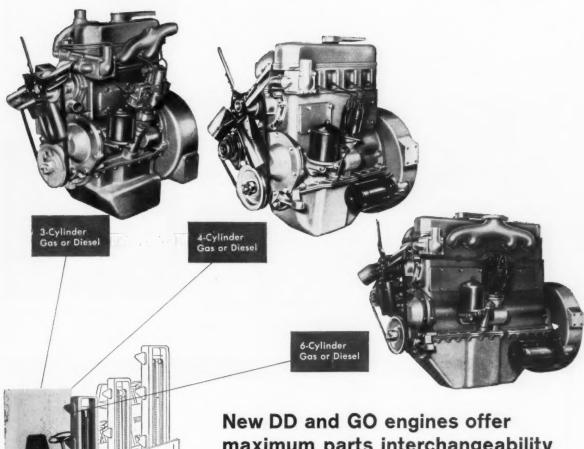
The MOTO-TRUC Co.





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Whatever size truck you buy, you'll save with Hercules power



maximum parts interchangeability

HERCULES 3, 4, and 6 cylinder GO gasoline and DD diesel engines offer the user maintenance economy never before possible.

For when you specify Hercules power for all your equipment, you can reduce spare parts stock to a minimum. These new DD and GO engines were designed with the highest possible degree of wearing parts interchangeability: one set of spares will service some 18 engines,

both gasoline and diesel. Of course, you can leave your engine service to Hercules world-wide distributor network and save even this minimum maintenance inventory expense.

If you'd like a quick visual demonstration of how this parts interchangeability can save you money, ask your nearby Hercules representative for your copy of an illustrated booklet. Or write Hercules Motors Corp., Canton 2, Ohio,

HERCULES ENGINES ... Sold and Serviced the World Over



Canton, Ohio

Circle No. 69 on Reader Service Card for more information

Louden Monorail cuts the cost of Interplant Transport

As companies grow and expand production facilities, the problem of interplant transport of materials, parts or semifinished products is often encountered. Time and again Louden Monorail proves to be the perfect answer. With Louden's Selectomatic Control, such an interplant transport system can be virtually automatic

The Louden Selectomatic Interplant Transport System at the Marion, North Carolina, plants of the Clinchfield Manufacturing Company is a good ex-ample. Here the problem developed of transporting tons of cloth daily between three separate buildings. 650 feet of Louden Monorail with a weather proof car in almost continuous operation pro-vides the perfect answer. The car can be raised and lowered as required for charging and discharging loads; the des-tination desired is preset by the control; transport is speedy, trouble free, automatic. It is estimated three men with trucks would have difficulty doing the same job.

Louden Selectomatic Interplant Transport Systems can do many things not required in the Clinchfield installa-tion described. It can automatically transport materials unattended from point to point anywhere in or about your plant, and it can select the shortest and most direct route to its destination.

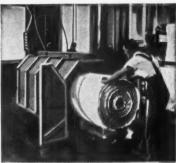
It can travel from floor to floor and building to building, open doors to let itself through and close doors behind it ... building doors, floor doors, oven doors. It places loads in ovens or in banks of infra-red dryer lamps, turning the heat on and off as needed. It stops promptly when there is a load ahead or when it does not have the right of way, and resumes travel when the way is clear. It stops accurately at its destination and even loads and unloads its own carriers with certain classes of materials. It returns empty carriers to point of origin or places itself in storage await-ing its next call.

Louden Automatic Materials Han-

dling is the guaranteed product of the pioneers and oldest company in the field of specialized monorail handling. Both the Louden field representatives and the factory engineers are highly trained specialists in the field of overhead materials handling. When you have a materials handling problem or any plant problem involving lifting and transporting loads, call on Louden for suggestions. This will cost you nothing but may prove to be the most profitable move you have ever made.

THE LOUDEN MACHINERY COMPANY 8308 Broadway, Fairfield, Iowa

A Subsidiary of Mechanical Handling Systems Inc.



Operator loading carrier with two 650 pound beams of domestic print cloth prior to transport from loom room to cloth room.

Operator raising carrier into position, selecting destination by push button. Carrier automatically stops at desired destination.



Carrier completing trip automatically and unattended on 650 feet of Monorail from Plant #2 to Plant #1, leaving all streets and alleys



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SINCE 1867 . . . THE FIRST NAME IN MATERIALS HANDLING

MACH 35-43-362 93-

10

11

MARION TRUCK CRANES

A real "lift" for industry . . .

There's always another job waiting for versatile Marion Truck and Wagon Cranes because they serve industry so many ways.

Yesterday, stacking material in the yard. Today, with 110 feet of boom and a 30-foot jib, helping to install stack extensions as pictured. Tomorrow, moving inside with a short boom to team with overhead cranes in an extra-heavy lift.

List all of the jobs these modern, efficient machines can do and you'll have impressive reasons to want and get a Marion. Then you'll happily discover additional new uses every day.

These are dependable machines that move and work rapidly and give operators extra confidence on difficult jobs. They convert quickly and easily - - in every way a real "lift" for industry, in a broad range of types and sizes,



TODAY'S MARIONS GIVE YOU MORE IN SUSTAINED, LOW COST PERFORMANCE

MACHINE	Shovel Capacity	AVAILABLE AS			
		Hoe	Crawler Crane	Truck Crane	Special Crane
35-M	3/4	Yes	Yes	Yes	
43-M	1	Yes	Yes	Yes	
362	11/2	Yes	Yes		Yes
93-M	21/2	Yes	Yes		Yes
101-M	3		Yes	-	
111-M	4		Yes		-



MARION POWER SHOVEL CO. . MARION, OHIO

A Division of Universal Marion Corporation

Send me information about MARION	yard shovels, yard
hoes and ton cranes (crawle	er mounted [truck mounted).
☐ Have a salesman call.	
Name	Title
Company	

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NOW!!

LP-GAS POWERED
LIFT TRUCKS
FOR
HAZARDOUS
AREAS*



Underwriters' Laboratories approval (Type LPS) for use of LP-Gas powered lift trucks in hazardous areas is now available on Hyster trucks. This is the first such approval granted.

Users now have a choice of two fuels, with GS approval also available for gasoline powered Hyster trucks.

UL APPROVAL

WITH

Inspected
POWER-OPERATED
INSTRIAL TRUCK
TYPE LPS NO. 0000
HYSTER COMPANY

Facsimile of UL label for Type LPS approved Hyster lift truck.

INDUSTRIAL TRUCK DIVISION

Display of LPS or GS approval plates indicates that proper safeguards have been made to the exhaust, fuel and electrical systems to meet all requirements of National Fire Protection Association for operation in the following areas:

* Class 1, Division 2, Group D, Section b

Atmospheres where volatile flammable liquids and their vapors or flammable gases are normally confined—as in handling containers of gasoline.

Class 2, Division 2, Group G, Section b

Locations where combustible dusts are present but not normally in suspension in the atmosphere—such as bags of flour.

MOVING AHEAD WITH INDUSTRY

Class 3, Division 2

Locations where ignitable fibers such as cotton, jute, etc., are stored.

Type LPS and/or GS approval is available on Hyster lift trucks ranging from 2,000 to 8,000 pounds capacity.

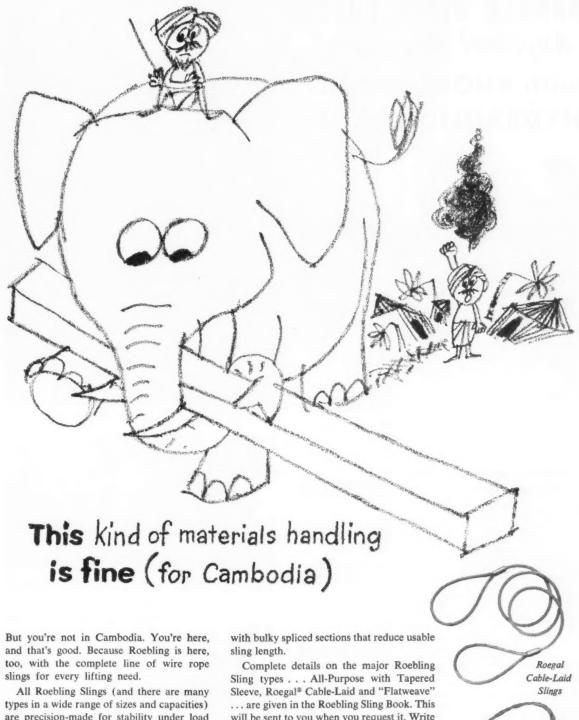
CONSULT YELLOW
Obtain additional information from your dealer or write to HYSTER COMPANY, BOX 847, DANVILLE, ILL.

PAGES FOR MEAREST
HYSTER DEALER

HYSTER DEALER

FACTORIES: Danville, III. • Portland, Ore. • Peoria, III. • Kewanee, III. • Glasgow, Scotland • Nijmegen, The Netherlands • Sao Paulo, Brazil • Sydney, Australia (licensee)

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are precision-made for stability under load ... uniform and consistent strength.

The All-Purpose Sling, for example, embodies the rolled loop and tapered sleeve attachment which, beside developing full catalog strength, makes it safe to handle; no servings, all wire ends are covered by the tapered sleeve. Further, the compact sleeve does away

will be sent to you when you request it. Write to Wire Rope Division, John A. Roebling's Sons Corporation, Trenton 2, New Jersey.

Your Roebling salesman or distributor can be of large help on any matter dealing with slings. Make use of him.

ROEBLING

Subsidiary of The Colorado Fuel and Iron Corporation

Branch Offices in Principal Cities

"Flatweave" Slings Circle No. 120 on Reader Service Card for more information

Roebling

HANDLE HEAVY LOADS Anytime! Anywhere! with RUGER MOBILE HYDRAULIC CRANES



Lift and Tilt Drums

TYPICAL EXAMPLE: users handling strip steel coils report savings of 43% to 80% in capital investment and 50% to 75% in man hours. Photograph, courtesy of Arens Controls Inc., Evanston, Illinois.

... THE WORLD'S MOST VERSATILE AND **ECONOMICAL MULTI-PURPOSE CRANES** FOR LIFTING AND MOVING

A mobile hydraulic crane with 1000 uses, the RUGER rolls anywhere, . . reaches in-under-over anytime . almost all lifting or moving jobs.

No extra capital investment necessary to combine most lifting and transporting operations with one RUGER multi-purpose crane.

The RUGER line (1/4 to 3 ton capacities) provides maximum safety and adaptability which includes variable speed hydraulic controls.

Manual and electric models available are floor . . . truck . . . convertible floor and truck . . . short mast . . . high mast . . . wide base . . . adjustable legs and retractable outrigger for side lifting. Priced as low as \$149.00.

Send for descriptive literature now.





RUGER EQUIPMENT INC

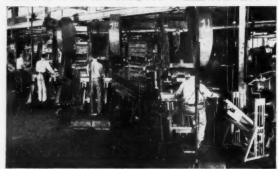
West Fourth Street . Uhrichsville, Ohio

Circle No. 122 on Reader Service Card for more information 24

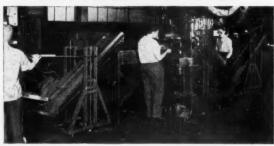
LITTLE HUSTLER CONVEYORS



MAXIMUM FLEXIBILI



FOR MANY TYPES OF



MATERIALS HANDLING JOBS



LITTLE HUSTLER conveyors' builtin flexibility eliminates costly manual handling, cuts production costs. Moneysaving features include up and down adjustment . . . conveyor pitch adjustable from horizontal to 45° angles . . .

rolls easily from job to job . . . requires minimum maintenance.

Available in various widths and lengths, the LITTLE HUSTLER is ideal for handling a wide variety of small and medium size parts. Write for Bulletin MF-2-413.



ENGINEERING, INC. 1611 Clarkstone Road, Cleveland 12, Ohio

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FROM on your next lift truck by specifying

Yes, these amazing savings are yours with the new FIATpowered OM Lift Trucks from Italy-designed for American industry by Europe's most skilled engineers. Unmatched at any price for their performance record, OM Trucks take to gradients like mountain pack mules—give you 20% to 150% greater climbing efficiency. OM hydraulic lifts have 3½ times the power of other makes. Easy accessibility of all parts makes maintenance unusually fast and economical. And no other line is more complete. OM has electric, diesel, gasoline and propane powered units to do every job better and more economically than ever. All models are available with pneumatic tires.

All this is backed by OM's unequalled 6-month warranty, and by parts and service depots from coast to coast. Before picking your next lift truck, investigate OM! Ask your dealer or write for literature.

OM Lift Company of America, Inc. 333 Bergen Blvd., Fairview, N. J.

Yes, I'm interested in OM savingstell me more! Please send full details on Models

Firm Name

FT COMPANY OF AMERICA INC.

333 Bergen Boulevard, Fairview, New Jersey

NEWS ABOUT SI

A Two Way Street

by John Mount President, SIPMHE



E ARE NOW in the middle of summer vacations. This is the time for us to escape from the tensions of our

jobs, and relax. As I mentioned in my message last month, vacations are for getting away from it all, but our minds are still active while we are relaxed physi-

I talked briefly last month about the National Labor Relations Board, and its 1944 ruling. That ruling stated that "Professional engineers do essentially creative work." NLRB felt that this definition would differentiate us from the non-professional ranks.

Later on, the Taft-Hartley Act went even further. In defining the professional and spelling out his work, this act ruled that "The term professional employee means:

- A. Any employees engaged in work
 - predominantly intellectual and varied in character, as opposed to routine mental, manual, mechanical, or physical work;

involving consistent exercise of discretion and judgement in its performance;

(3) of such a character that the output produced or the result accomplished cannot be standardized in relation to a given period of time.

(4) requiring knowledge of an advanced type in a field of science or learning customarily acquired by a prolonged course of specialized intellectual instruction and study in an institution of higher learning or a hospital, as distinguished from a general academic education or from an apprenticeship or from training in the performance of routine mental, manual, or physical processes; or B. Any employee who

(1) has accomplished the course of specialized intellectual instruction and study described in clause 4 of paragraph A; and

(2) is performing related work under the supervision of a professional person to qualify himself to become a professional employee as defined in paragraph A."

I believe that packaging and material handling engineers can well qualify within the above rules and definitions. The word professional is repeatedly associated with the doctor, lawyer, and minister. We must cultivate the same acceptance.

A real professional status is actually a two way street. One way is the qualifying rules and definitions. The other direction—and the most important—is that we conduct ourselves as a group with a definite code of ethics, so that we will be rightly recognized by the community in which we practice.

21st Division Is Installed

LOUISVILLE, KY.—The 21st division of SIPMHE was installed here recently. At a dinner attended by 53 people, K. V. Moulton, regional director, officially inaugurated the group. Officers of the new division are: Edward J. Powlenko, Home Laundry Div., General Electric Co., president;



C. R. Gustafson, American Radiator and Standard Sanitary Corp., and Frank Lederer, Cardinal Carryor Co., vice presidents; Vic Sundquist, Rowland Paper Co., treasurer; and J. P. Doyle, Kennedy Bag Co., secretary. Shown in the photo are (I to r) Doyle, Moulton, Powlenko, and Sundquist.

SIPMHE and AMHS Discuss Merger

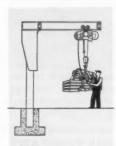
SPECIAL COMMITTEES of SIPMHE and AMHS have been given the green light by their national boards to proceed with plans for a national merger of the two groups. Spokesmen hope that the final recommendation will be ready on time to present to the board of directors at their October meeting in Chicago.

Exploratory steps towards a merger began in late 1957, when William E. Kappler, president of AMHS, and John Mount, SIPMHE president, exchanged letters on the subject. They agreed that the aims and principles of

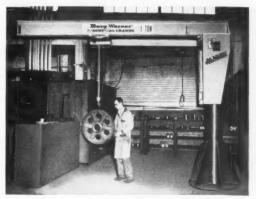


Jib Master gives you all these quality features:

- Head assembly pivots on heavy-duty taperedroller thrust bearing.
- Head assembly accurately positioned and welded for perfect alignment of jib. Heavy side plates.
- Two large-diameter, carefully machined side rollers. Each roller has two precision ball bearings for smooth, easy jib rotation.
- 4. Heavy wall seamless steel column.
- 5. Heavy circular base plate, 6 large gussets and column are welded to form a rigid frame.



The Jib Master is also available in Pillar Foundation Mounted type, designated N-PFM. Either Jib Master model can be used with chain block or electric hoist.





Design it better ... Make it better.



Distributors in all principal industrial cities.

Borg-Warner INDUSTRIAL CRANES

1530 S. PAULINA STREET, CHICAGO 8, ILLINOIS

Export Sales: Borg-Warner International, 36 South Wabash Ave., Chicago 3, Illinois

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High Truck — Low Dock Problem is easily solved with Magcoa Ramp-Dockboard combination. Variations of this system solve many dock problems.



100% Safety from all Dockboard slippage (even under extreme conditions) is made possible with exclusive Magcoa Span-Locks. Adjustable for any span.

NEWS ABOUT SIPMHE

Continued

the two groups were similar, and that there were many advantages in combining. First official action came shortly later when each group appointed a merger committee on June 6, 1958, these special four-man committees met in Cleveland to deliberate the issue.

Says Mount of the merger, "A merger of the two Societies would mutually benefit our respective memberships and result in a larger, stronger, and even better single Society."

SAN MATEO, CALIF.—The Northern California Division will hold its first annual golf party with the Material Handling Dealers Association August 15. It will be at Peninsula Country Club. There will be entertainment for both golfers and non-golfers. Dinner is included.

CLEVELAND, OHIO—At their last formal meeting of the season, members of the Northeast Ohio Division recently saw modern packaging and material handling techniques at work at the Laub Baking Co. After the tour the group was addressed by R. L. Matheny, Gaylord Container Co.

Los Angeles, Calif.—"The Latest in Packaging Materials" was the subject of a recent meeting of the Southern California Division. Members heard Robert Neiman, Neiman-Reed Lumber Co., discuss the best sources and latest products in the field. Many new products were displayed. The meeting was concluded with a question and answer period.

PHILADELPHIA, PA.—The Philadelphia Regional Division's last meeting of the season was highlighted by the presence of **John Mount**, SIPMHE president and manager of the marine service department of the Insurance Co. of North America. Mount spoke on "Loss Prevention Measures for Overseas Shipments." His presentation was illustrated by a film entitled "Protected Cargoes."

Here's <u>special</u> equipment for any dock handling need!



To Bridge Across Rail Tracks or roadways, Magcoa Cross-Over Bridge offers fast, safe solution. Bridge can be raised or lowered in less than minute.



To Solve Peak Traffic loads, Magcoa Dock Extensions act as additional dock. Dock Extensions can be hinged to dock or mounted on wheels for portability.



Like Owning an Extra Dock. No need for a dock with a Magcoa Yard Ramp. Load from ground level anywhere in your yard. One man handles.



Speed Loading on Narrow Dock. Magcoa Flared Dockboard eliminates sharp right angle turn . . . adds extra width, more working room to your dock.



Fabricated Specifically for Your Dock, Magcoa Dockboards are guaranteed to fit exactly! Rail or truck—your dock problem gets a personalized solution.

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Have RCA Communications Specialist contact me.

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Save \$1,200 Per Truck Per Year

Cost surveys at a number of plants reveal that ELPAR electric truck operating and maintenance costs are only *one-third* those of comparable models in other power types. Based on 2,000 hours of operation, this means an average saving of more than \$1,200 per truck per year.

In addition, ELPAR electrics give twice as many years of dependable service as gas trucks operating under similar conditions. Thus, when *all* initial and replacement costs are added up, ELPAR electric trucks actually cost *less* to buy.

And, the surveys show that average downtime for

ELPAR electrics is 2 to 3% while that for gas trucks is 10 to 15%.

More and more companies are converting their fleets to dependable, fume-free ELPAR trucks. Join the trend. Choose from our complete line of fork and ram trucks, low lift and high lift platform trucks, and mobile cranes—and save on first cost and operating cost. Get all the facts...

WRITE FOR YOUR COPIES

of the ELPAR Lift, "Gas vs. Electric Trucks" and "LP-Gas vs. Electric Trucks." Also, send for Condensed General Catalog.





THE ELWELL-PARKER ELECTRIC COMPANY

4238 St. Clair Avenue

Cleveland 3, Ohio

Twice the Life ... 1/3rd the Operating Costs

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speeds in-plant movement, cuts production costs

Jets, rockets and Sputniks are beyond our ken. But we have learned a lot about the conquest of inner space—the space through which your materials and products move. And we know that the more you mechanize this movement, the more you cut production costs.

Lamson offers a complete, modern, fully integrated package conveyor system for every kind of material handling. Our Automatic Palletizers will handle up to 2400 cartons per hour. And Lamson Pneumatic Airtube Systems give fast, sure in-plant movement of correspondence, punch cards, drawings, samples, tools and small parts. We guarantee the performance of our systems. We engineer, build, and install them - no split responsibility.

The Lamson field engineer in your area would be pleased to study your operation — to prove Lamson pioneers the conquest of inner space.

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Manufacturers of Pneumatic Airtube* Systems • Integrated Conveying Systems • Pallet Loaders • Selective Vertical Conveyors • Bookveyors* • Clinical History Lifts • Trayveyors® • Food Service Systems • Blowers and Exhausters • Exidust® Central Vacuum Cleaning Systems • Dryset® Air Vacuum Systems • Mobilift® Industrial Trucks

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DARNELL CASTERS



PHENOLIC (DARNELLOPHEN) WHEELS

- No rusting or corroding
- Non-marking
- Quieter rolling
- Will stand temperatures up to 200° F.
- High impact strength
- Resist oils, greases and most chemicals
- Wheels have beveled edges protect floors better.



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Good News for Handling Men

Competition is a good thing . . . most of the time. Under certain conditions, however, it can be wasteful and downright ridiculous.

Officers of the American Material Handling Society and the Society of Industrial Packaging and Material Handling Engineers discovered this after nearly 10 years of useless competition. They showed a willingness to cooperate several months ago when they appointed a Joint AMHS-SIPMHE Merger Committee.

After an all-day meeting, the committee recommended, "that a merger of the two societies be effected." (See FLOW, July, page 40.) This is extremely good news for the entire industry.

"Scoops" Helped Nobody

What has been gained from a decade of competition? Nothing.

- Both AMHS and SIPMHE are dedicated to serving all of Industry and the entire packaging and material handling profession.
- Both are controlled by officers who get no pay for their society activities.
- Neither group has ever gained by "scooping" the other.

Local chapters compete with each other for speakers, publicity and new members. No national activity of either society has ever had the fullforce backing of both.

The total result has been a split down the middle. Each chapter has about half of its potential membership. Good speakers for meetings have been hard to line up because of the great demands made by two active organizations. Operating funds are halved too, but operating expenses have been doubled by duplication.

Competition Not Good Business

At last, the people who can do something about it have recognized that it just is not good business for the material handling profession to try to maintain two competing technical societies. The officers of AMHS and SIPMHE have started the ball rolling. The problems ahead are many, but it is up to the memberships to see that nothing stops it.

FLOW lends its wholehearted support to the merger effort. Its editors are ready to help in any way possible to bring about an end to competition where there should only be unity.

Ed Leighten

Executive Editor

FLOW

Circle No. 33 on Reader Service Card



Photo courtesy of Economics Laboratories, Inc.

After you buy a Clark truck . . . what then?

Almost more important than your original truck purchase is the service you get after delivery. Quality of the truck is taken for granted. What you're interested in is keeping the equipment on the job and keeping maintenance costs down. It's why competent local service is so important.

If you are already a Clark user, you know the service your local Clark dealer supplies is fast, dependable and economical. You know, too, that

his service extends to such things as improving equipment utilization, safety programs for your employees, and a number of other services designed for your specific benefit. If you would like

full details on the many special aids available, write to: Local Service, Clark Equipment Co., Battle Creek, Michigan.



The Arithmetic of Materials Handling



Fuller Airveyor unloads wood flour to two forty-five foot silos. Second Airveyor system reclaims material 360 feet to processing.

General Electric Changes From Bags to Airveyor ... Cuts Handling Costs 60%

As part of a program to increase plastics production and reduce operating costs at its Pittsfield, Mass. plant, General Electric Company called in Fuller engineers to design systems for handling wood flour in bulk.

Wood flour—used as a filler in phenolic molding compounds—was being handled in 75 and 100-pound bags. Unloading one carload of bags required 16 manhours. Bags were loaded on dollies and wheeled to a distant elevator.

SAFETY FIRST—The two pneumatic Airveyor® materials handling systems, engineered and manufactured by Fuller Company, were installed by its parent company, General American Transportation Corp., providing undivided responsibility. This installation resulted in a 60% saving in handling costs! The two systems

are handled by one full-time and one part-time operator. Manhours to unload one car have been reduced from sixteen to six!

In addition, all equipment is designed to conform to strict safety specifications set down by G-E engineers.

FLOW YOUR MATERIALS—The Airveyor is a system that flows your material through sealed pipes. It's fast, safe, and self-contained. The pipes can be placed close to ceilings, run underground or through walls.

Whether you process wood flour—or other dry granular materials—look into the many economies of Airveyor conveying. Write today for interesting, detailed literature on Airveyor and other Fuller pneumatic materials handling systems.





FULLER COMPANY 164 Bridge St., Catasauqua, Pa.

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION

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G-196

"See Chemical Engineering Catalog for details and specifications".

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TRAILER lifts 40,000 lb auto die.

Special Trailer Moves Heavy Auto Dies

NTIL this trailer went to work, auto plants had a tough job moving fender and hood stamping dies where there were no cranes.

How It Works

Saddle racks support the dies above the floor so that the trailer can be backed under them. Hydraulic power raises the trailer deck 3 inches, lifts the die clear of the rack. Then the tractor pulls the die off the rack. When free, the deck is lowered and the die is carried to the press.

The trailer has two springbalanced tongues, can be towed from either end. The steering is synchronized and each wheel assembly is articulated to provide the load stability needed on rough roads.

The trailer is 48 inches wide, 96 inches long, and 29 inches high. It has sixteen 15x5 inch solid rubber tired wheels mounted on Timken roller bearings and 21/4 inch diameter axles.

The deck of the trailer is mounted on four hydraulic cylinders. Each is 4 inches in diameter and has a 3-inch stroke. The cylinders are actuated by the hydraulic system of the towing tractor. A flow equalizer synchronizes lifting. It is mounted in the hydraulic circuit ahead of the lifting cylinders and has one inlet and four outlets, one for each cylinder.

The tractor can be quickly disengaged from the towing tractor, because the hydraulic couplings are easily disconnected.

Courtesy Salem-Brosius, Inc.

The truck with "boarding house reach" INCREASES WAREHOUSE CAPACITY

... as much as 50%



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SAVE NOW...



ONLY \$584.10 F.O.B. Muskegon

That's all it costs for Type "NH-SUH" 'Load Lifter' components to build a 3-ton, 50-foot span bridge.

Economy goes even further. You buy I-beam and cross shaft locally and save on freight. Your own men or any experienced contractor can handle the installation from instructions we supply. Soon you will have a modern single girder underhung crane bridge for surprisingly little money.

The new Type "NH-SUH" 'Load Lifter' components are tops in ruggedness and workmanship. Operation is smooth, maintenance low. You get the utmost in safety and service life. You save because we manufacture the highly standardized units in quantity and stock them in regional warehouses.

Solve your load handling problems for years to come. Erect this low-cost crane bridge for manual operation now. It is easy to motorize economically later should you want faster crane service. Add one of our chain blocks or electric hoists to get the best in lifting efficiency. Our complete line includes just the type of overhead handling equipment to meet your specific requirements.

Call your nearby "Shaw-Box" distributor today. Ask for the price of Type "NH-SUH" 'Load Lifter' bridge components for the crane you want to build. Let him give you the price of a hoist and accessories at the same time.

FACTS ABOUT TYPE "NH-SUH"

COMPONENTS FURNISHED

Two completely assembled end trucks. All required cross shaft bracket and bearing assemblies and shaft couplings. Chain wheel complete with guide.

Standard 20-foot hand chain.

Designed for use on tapered or straight flanged beams suspended overhead.

6-foot wheel base distributes weight properly; rugged construction prevents binding on the tracks. Engineered for hand-geared or motorized operation without alterations.

WHEELS ADJUSTABLE

Easily adjusted to fit 8" to 24" 1-beams. Merely rearrange spacer washers on the wheel axles. Crowned wheel treads reduce 1-beam contact area—

Crowned wheel treads reduce I-beam contact area — assure easiest bridge movement. Hardened treads wear longer.

Radial thrust bearings — two in each wheel — save effort in manual operation; save power when bridge is motorized.

Lifetime lubrication cuts maintenance time and costs.

PRECISION GEARS AND DRIVING PINION

Teeth are machine cut for accurate meshing; flame-hardened for long life.

APPLICATION OF HOISTING UNIT

Bridge easily equipped with trolley-type chain block or electric hoist of proper capacity and lift. Both available in low headroom style to provide highest lift,



Load Lifter CRANES

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Builders of "SHAW-BOX" and LOAD LIFTER' Cranes, 'BUDGIT' and 'LOAD LIFTER' Hoists and other lifting specialties. Other Divisions produce 'ASHCROFT' Gauges 'HANCOCK' Valves, 'CONSOLIDATED' Safety and Relief Valves, and 'AMERICAN-MICROSEN' Industrial Instruments.

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Best Buy in Bagclosers!



New Bagcloser Model 171

\$2650 F.O.B. Buffalo

COMPLETE WITH 9'9"
SELF-LEVELING CONVEYOR,
INSTALLATION and TRAINING
FOR YOUR OPERATORS

Change your ideas about output and costs!

Precision-engineering brings you new Bagcloser 171.

The most efficiency and versatility for your production dollar.

Longest Conveyor. 9'9" Hydraulic "barber shop" height setting! Men stand erect. Plenty of elbow-room between fill spout and sewing head.

Automatic Stitcher Head controlled by bag passage. No inefficient one-leg hop; no tiring stoop or bend.

Fast-Up to 20 bags a minute with two men, 8 a minute with one, stead-ily, because it doesn't tire workers.

Most Economical and versatile machine for chemicals, feed, fertilizers, and consumer units in SOM paper bags. Caster-mounted, it works with all weigh machines and adjusts to spout height.

Handles All Bags 14%" to 30" Fast, easy changeover with self-adjusting conveyor.

Explosion-Safe and Trouble-Free-Pneumatic-clutch sewing head. Welded steel construction. Ball and roller bearings. Standard model wired to Nema 4 specs. Furnished to Nema 7 or 9 specs. at 1/3 optional cost of other machines.

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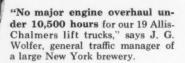
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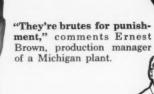
These users prefer **Allis-Chalmers** Lift Trucks

and you will, too!

"Feels like a car with power steering," says Arthur B. Wiley, who drives one of the three Allis-Chalmers lift trucks at a Michigan factory.









"It's the finest truck from a mechanic's point of view," states Roy Denly, fleet mechanic for a large Illinois company.





"They're tougher and require less maintenance," finds chief mechanic Milt at a north central plant.





"Our fleet of 14 Allis-Chalmers lift trucks has made it possible for us to operate at costs much lower than we thought possible," says Al Williams, superintendent of a large warehouse and stevedoring company.

This happy discovery is reported by Vincent C. Bonerb, president of a large eastern warehouse: "We had a ramp that literally tore out clutches and brakes. Maintenance costs amounted to \$1,100 a year. Then we tried Allis-Chalmers fork trucks. After 15 months on the job, repair parts totaled only \$1.92!



"They are certainly accessible to work on," says Clyde Dent, mechanic at a midwest-

"I just like the whole machine — everything about it," sums up John Cromer, operator of an Allis-Chalmers truck at a Missouri plant. "It's a work horse.



Let your Allis-Chalmers dealer give you case studies of jobs where Allis-Chalmers lift trucks are preferred and saving money. Let him show you - with a demonstration right in your own plant. Allis-Chalmers, Milwaukee 1, Wisconsin.



At The Annual Board Meeting . . .

Tomohide Shiga, leader of the 2nd Japanese Material Handling Study Team, presented gifts of



Japanese scarves to A. J. Van Benschoten, new national president (left) and J. Wellington Hall, past national president. Interpreter Masumi Nuramatsu looks on.

Edward H. Leighten, executive editor, FLOW, accepted League M membership championship emblem for the Cleveland Chapter from Elton F. Reid, Jr., 1957-



58 membership development committee chairman.

John Mount, president of SIPMHE, said a few words at the



3rd Annual Banquet. Listening are William E. Kappler, left, and Neil Bryson.



Meet Our New Officers

Pictured here are the new national officers for the coming year. Left to right—William E. Kappler, retiring president; Alfred J. Van Benschoten, new president; Neil Bryson, new 1st vice president; Elton F. Reid, Jr., new 2nd vice president; Stephen C. Traudt, new secretary and Charles E. McCamey, new treasurer.

Clark Award Winners Announced

Winners of this year's Clark Awards were announced at the Annual Board Meeting held re-



Second Place Winner

cently in Cleveland. Leonard J. Churches took first prize with his article on "New Methods Reduce Shipping Costs". Other winners were: Leo F. Delventhal, Jr., second place; J. T. Heffernan, and A. H. Chapman, third; John W. Muller, fourth; and Edward J. Koik, fifth. The first place article is reprinted on page Jim of this issue.

Los Angeles, Calif.—A. E. Flinck has been elected president of the Los Angeles Chapter for 1958-59. He has served two years on the Chapter's board of directors, and as program chairman. John J. Timmer, Charles M. Shibel, Frederick C. Bas-Sick, III, Roy L. Hill, and Don S. Ferguson were elected to the board of directors.

Pittsburgh, Pa.—Annual Sports Night was May 22 for the Pittsburgh Chapter. After a fine dinner, the members went to Forbes Field to see the Pirates and the Cards.

Newark, N. J.—Irving S. Lyman, engineer with Bakelite Company, spoke at a recent meeting of the New Jersey Chapter.

Pawtucket, R. I.—Members of the Narragansett Chapter toured the Charles Pfizer & Company, Inc. at a recent meeting. The plant tour included many phases of material handling from ships, rail and trucks.

New Materials Handling Ideas from Republic

SPECIAL STEEL PALLETS HELP JOHN DEERE CUT ENGINE LOADING TIME 80%, UNLOADING TIME 86%



PRECISION MADE, REPUBLIC STEEL "BOLT DOWN" PALLETS have helped solve a tough, expensive, interplant shipping and handling problem at John Deere, because they were engineered to the requirements of the job.

Four combine engines are bolted on to each pallet at Deere's Dubuque, Iowa, tractor plant, then trucked to the Harvester Works at East Moline, Illinois. There, the engine-loaded pallets are picked up by fork trucks and moved quickly and easily to the production line or to temporary storage.

Use of Republic Steel Pallets eliminates the need for truck dunnage for shoring up each individual engine. This feature alone results in a time saving of 80% in loading operations and 86% in unloading.

The pallets, designed and made by materials

handling specialists at Republic's Berger Division, measure 43" wide and 64" long. Each pallet is equipped with 16 threaded holes for bolting down the engines. Spacing of these holes is such a critical part of the pallet design that they must meet a tolerance requirement of ½2 of an inch.

Tough, strong steel and corrugated construction combine to take the heavy engine loads in stride. Steel pallets were selected for this application by Deere, because they would require minimum maintenance and would be usable over many years.

Why not talk over your handling or storage problem with a Republic Engineer. A specially designed or standard pallet, box or skid could help you save time, cut costs, simplify an operation. Contact your Republic Materials Handling Representative. Or mail the coupon. There is no obligation.



NEW IDEA FROM REPUBLIC for making special purpose tables, stands, catwalks, racks, scaffolds. It's BILD-A-FLEX, Republic Berger Division's slotted construction angle. Use it as "metal lumber". Simply plan your assembly, cut BILD-A-FLEX, join with bolts. Horizontal and vertical slots make adjustment easy. Bonderized and finished with gray baked enamel after fabrication. Shipped in convenient bundles of 10 angles, 10- or 12-foot lengths. Stores in same space as one 2" x 4" piece of lumber. Write for new idealoaded catalog.





PRACTICAL IDEA for storage needs of plant personnel-Republic Steel Lockers. Indispensable wherever clothing must be changed or stored. Safe, pilfer-proof, tamperproof. Available in a wide choice of styles and locking mechanisms. Bonderized for lasting paint adherence and resistance to damage. Republic's Berger Division will help you plan your new or enlarged locker system and handle all details. Write for facts.

SAVE TIME with Republic Sectional Bar Racks. Load or unload from either end or either side. Each upright supports 40,000 pounds of bar stock, shafting, pipe, when loaded both sides. Handles short or long stock with equal ease and convenience. Made by Berger to any desired length in multiples of 35- or 70-inch units. Uprights are 96 inches high, with 11inch brackets adjustable at six-inch intervals. Send coupon for details.

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World's Widest Range of Standard Steels and Steel Products

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☐ Have a Materials Handling Engineer call. Send more information on:

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☐ BILD-A-FLEX Angles

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Sectional Bar Racks

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STRIKE HARD at today's high operating costs



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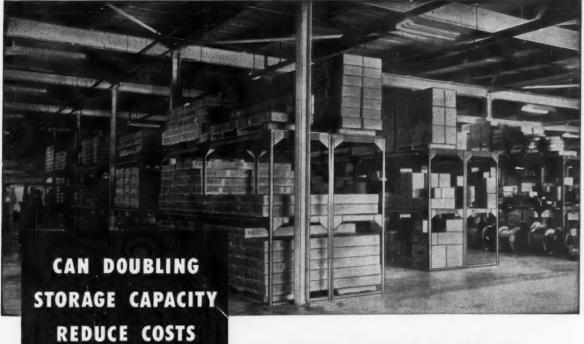
You can be sure of lowest battery costs and highest operating efficiency—year in, year out—with Gould Batteries. Why? Because there's a cost-reducing benefit behind every feature, of every battery in the Gould line.

That's why it pays you to standardize on Gould. Call your local Gould representative for details. He's listed under "Batteries, Industrial" in the Yellow Pages. Gould-National Batteries, Inc., Trenton 7, N. J.

More Power to you from Gould

Always Use Gould-National Automobile and Truck Batteries

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NEW STORAGE TECHNIQUES GET MORE INTO LESS SPACE, CUT SERVICING TIME SHARPLY

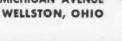
Great advances have been made during recent years in the efficient utilization of storage space. For example, one company reports that a 652 sq. ft. area now stores material formerly occupying 1824 sq. ft.—25 of the space is now used for other purposes. In addition, time required for inventory, an indication of daily servicing requirements, was reduced by 1811 manhours—a saving of over 70%.

Methods of storage handling depend, of course, upon bulk of materials stored, volume, turnover, and similar factors. New storage equipment, developed to accommodate these conditions, effectively reduces storage costs. You can benefit from F-G-M long, diversified experience and know-how in this field.

WRITE TODAY FOR NEW BULLETIN "HOW TO DOUBLE YOUR WAREHOUSE CAPACITY" CONTAINING 16 PAGES OF ILLUSTRATED TIME- AND SPACE-SAVING IDEAS. FREE ON REQUEST.







A-1



"KNOW-HOW"

. . . increases storage capacity . . . reduces servicing time

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FOR YOU?

MEN IN THE NEWS

At Lewis-Shepard Products, Inc. . . . J. E. Whitehead is exclusive sales and service representative in Alabama, Northwest Florida and Southeast Mississippi. Whitehead has been associated with the industry for the past six

years, most recently as a sales engineer for a material handling equipment distributor.

At **The Jeffrey Mfg. Co...**. seven graduates of the company's two year sales training program

have been assigned to local sales offices. They are Roy Adams, Melvin Ledger, Alex Steele, Al Pingpank, John Sherrell, William Taylor, and Keith Beachler. Respectively, their offices will be in Birmingham, Ala., Buffalo, N. Y., Bluefield, W. Va., Columbus, Ohio, Houston, Texas, Milwaukee, Wis., and San Francisco, Calif.

At Union Metal Mfg. Co....
G. W. Kolling is manager of the newly opened Northwest district sales office at Portland, Oregon. He has been with the company since 1956. Also announced is the transfer of E. B. Moss to the Southeast district with headquarters in Atlanta (Decatur), Georgia.

At C & D Batteries, Inc....

A. S. Schnyder has joined the sales staff of Gregory-Salisbury and Co., Inc., C & D's Mobile, Ala. sales representatives.

At Taylor Fibre Co. . . . G. H. Platt is sales engineer and has been assigned to the firm's New England office at West Hartford, Conn. He will handle application and sales throughout Connecticut, Vermont, and western Massachusetts.

At Ingersoll Kalamazoo Div., Borg-Warner Corp. . . . D. R. Angle is now factory sales representative. He will be responsible for sales in the Western district.

At Daybrook Hydraulic Div., Young Spring & Wire Corp. . . . F. R. Moon has been appointed East Central district manager. Moon has been with the firm since 1942.

At Baker Industrial Truck Div. of Otis Elevator Co. . . . G. V. Clark has been named western district manager. He will operate from a Los Angeles office.

At Ready-Power Co. . . . the new Los Angeles district manager is R. W. Stephenson. He was previously employed in a sales capacity for a major material handling truck manufacturer.

NOW! Cut damaged shipment losses with



BRACE-FAST
inflatable cargo protection

and • save on blocking and bracing materials
• save on labor • speed loading and unloading

Your shipments ride against a pillow of air when you use Brace-Fast inflatable cushions for dunnage. Extremely easy to handle, one man can quickly place and inflate these cushions in a fraction of the time required to build wooden bulkheads or place other old-fashioned dunnage.

What's more, Brace-Fast cushions can be deflated rapidly at destination, permitting prompt unloading of shipments. If you're a shipper, you save by avoiding demurrage charges; if you're a carrier, you save on equipment that can be released promptly for other assignments.

Tests have proved that Brace-Fast pneumatic cushions hold lading tight in transit, absorb impact shocks on stops and starts, and save money all around.

One man can place BRACE-FAST dunnage quickly and easily!

BRACE-FAST gives you all these advantages:





Brace-Fast is flexible and resilient — conforms to irregularities, absorbs impacts; yet keeps cargo in position.

Brace-Fast is economical —can be used over and over again. Deflated bags can be readily returned to shipper.



After measuring space between lading for number needed, cushions are

Brace-Fast cushions are then placed in position and inflated to full recommended pressure.



Find out more about BRACE-FAST inflatable cargo protection!
Write to: Dept. F-2

NEW YORK RUBBER

CORPORATION Established 1851

100 PARK AVENUE . NEW YORK 17, NEW YORK

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EXTRA! EXTRA!

15,000-20,000 lb. Capacity Yale Gas Trucks Give You 3 Big Extras!



1. EXTRA VISIBILITY. Wide-spaced, nested channels and high-center driver's seat combine to produce Yale's exclusive Wide-Angle Vision—good for 300% more visibility.

2. EXTRA LOAD STABILITY. Result of low center of gravity, high underclearance, widely spaced lifting chains and side-thrust rollers. Large, high-flotation tires give good traction under severe terrain conditions.

3. EXTRA FAST CYCLE OPERATION. Full loads lifted at 60 ft. a minute – fast, controlled lower-

ing-travel speed up to 20 mph.

Other features of these husky, easy-to-maintain Yale Gas Trucks include H-beam side members in frame for extra strength—channels mounted on ball bearings to reduce friction—ball-mounted, self-aligning hoisting cylinders. Available with fully automatic transmission, fluid coupling or standard transmission—choice of gas or LP-gas models. For further information write for Bulletin #5230, The Yale & Towne Manufacturing Co., Dept. A-48, Philadelphia 15, Pa.



INDUSTRIAL LIFT TRUCKS & TRACTOR SHOVELS · HOISTS

YALE & TOWNE

GASOLINE, ELECTRIC, DIESEL & LP-GAS INDUSTRIAL LIFT TRUCKS . WORKSAVERS
WAREHOUSERS . HAND TRUCKS . INDUSTRIAL TRACTOR SHOVELS . HAND AND ELECTRIC HOISTS

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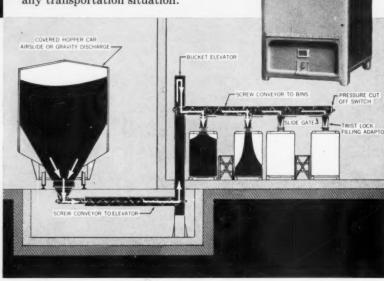
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in bulk handling...



offers GREATEST transportation flexibility

Tote, a complete, mechanical, automatic bulk handling system, is based on metal bins (aluminum, stainless or carbon steel, monel, or magnesium) plus filling and discharging equipment. Here is how it fits any transportation situation:



BULK HOPPER CARS

Tote System can be adapted readily to the use of bulk covered hopper cars, of the gravity discharge or Airslide type, when these are furnished free by the shipper or by the railroad.

The drawing above shows how quickly and easily mechanical or pneumatic car unloading and Tote filling equipment moves the contents of the car into Tote Bins. The Bins can then be weighed and placed in your warehouse. (Only with Tote

CONTAINER CARS

This special railroad car carries 26 Bins which can be filled by your supplier while still on the car. At your plant or team track, one man with a fork lift can unload the car in 35 minutes. A mileage allowance of 3.7 cents is paid for every mile this car travels.

can you weigh your incoming material as a check against your supplier's invoice and also for inventory purposes.)

One man can handle the entire operation — unloading the car, filling, weighing, warehousing the Bins, and moving previously filled Bins from warehouse to discharge stations. In many installations, 100,000 pounds of material are being moved through the complete cycle in less than four hours by one man.

TRUCKS

If bulk hopper trucks are employed, they can be unloaded into Tote Bins by the same method used to unload rail hopper cars. Or up to 16 Tote Bins, depending on weight restrictions, can be carried on conventional trucks and trailers.

Why not let our engineers survey your plant at no obligation? Meanwhile, write for new catalog containing complete details

*Tote and Tote System Reg. U. S. Pat. Off.

TOTE SYSTEM, INC.

630 SO. 7TH ST., BEATRICE, NEBRASKA

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*Similar type of mast available for heavier capacities.



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Division of The Yale & Towne Manufacturing Company
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WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

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'ROUND THE COUNTRY



Bird Won't Fly With Bent Wings

The Navy's Terrier missile has wings and fius that are precisely made and extremely delicate. If they were bent even a fraction of a degree, the missile's flight accuracy would be disturbed. To prevent this, the Navy turned to Styrofoam as a protective pack-

aging aid. Blocks of this rigid white expanded plastic are cut, shaped, fastened to plywood board, and glued into cardboard containers. The wings and fins are fitted into grooves cut in the Styrofoam (inset). The cartons are shipped in aluminum containers.

Postal Rate Changes Make Scale Charts Out of Date

The new bill creating higher postal rates will pose some little-thought-about shipping problems. For example, millions of charts on postal scales will become obsolete overnight. But the problem is on its way to solution.

As Arthur Sanders, Executive Secretary of the Scale Manufacturers Association, said "Making replacement charts available for out-dated charts on the vast number of postal scales now in use is an enormous job; but the nation's postal scale makers are hard at work on the task of accurately designing these complex computers."

However, the scale industry offers a word of advice to postal scale users. That is to have their scales checked for accuracy at the time the new charts are installed.

"Millions of postal scales have been in use for years without being checked for accuracy," Sanders declared. "Many, perhaps most, of these have become inaccurate through long use, abuse, or because dirt or other foreign matter has clogged their inner working parts."

Wooden Pallet Conference Coming Up

The State University College of Forestry at Syracuse University, in cooperation with the National Wooden Pallet Manufacturers Association, will sponsor the Second Annual Wooden Pallet Conference for Wooden Pallet Manufacturers and Suppliers. Dates are September 9-11.

Baker Gets \$6 Million Contract

The Navy Purchasing Office has awarded a \$6,700,000 contract to Baker Industrial Trucks, Division of Otis Elevator Company. The contract covers manufacture of 450 rough terrain fork trucks for delivery to the U. S. Army Ouartermaster Corps.

The trucks are gas-engine, 6000 pound capacity; they will be able to move supplies to inland storage areas from landing craft, will operate in five feet of water, all under combat conditions.

The truck's forks are extensions of hydraulic telescoping arms which reach out, up or down, to pick up loads. A side-shifter can move the forks two feet either side of center.

New Comercial Standard for Power Cranes and Shovels

The Power Crane & Shovel Association has recently completed, with the cooperation of the U.S. Department of Commerce, a new commercial standard for power cranes and shovels. This standard, CS 90-58, covers domestic machines and machines for export. It replaces CS 90-49 and CS 90-E-47.

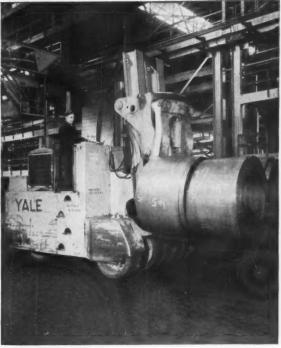
The standard sets up uniform methods for specifying power cranes and shovels; it is a guide to manufacturers, distributors, and users. The standard will serve as a basis of understanding.

Copies of CS 90-58 may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. at 20 cents each or in limited numbers from the Power Crane & Shovel Association, 75 West Street, New York 6, N. Y. at the same price.

B.F.Goodrich







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B.F.Goodrich industrial tires

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AUGUST, 1958

The B. F. Goodrich Company



Now... C&D 31"-high batteries have 145 ampere hour plates!



New C&D Type HD Slyver-Clad® cells . . . designed to boost capacity of 31-inch-high batteries without increasing the size of the standard battery trays that previously featured cells with 100 A.H. plates.

New Type HD features increased capacity, Slyver-Clad® construction

Now you can pack more power for more work in the same size "power cube." Extra-heavy-duty electric trucks can be equipped with more battery capacity than ever before. Even on unusually long runs, operating a variety of the new power attachments . . . trucks work longer, harder when equipped with C&D's new Type HD batteries.

The C&D Type HD Slyver-Clad® motive power battery jumps the capacity standard of 31"-high cells to

145 A. H. per positive plate at the 6-hour rate. This latest power boost by C&D is made possible by using exclusive, time-tested Five-Fold Slyver-Clad construction . . . the same proved construction which has accounted for all of the battery industry's capacity boosts.

Plates are longer, heavier, packed with extra power. "Shedding" of active materials is virtually eliminated, allowing greater utilization of sediment space for longer plates.

In addition, the containers and covers of the HD cells are made with C&D's exclusive *Hi-Impac* material. Since this material was introduced 18 months ago, there is no record of ever replacing any of these components because of breakage.

For details, write to C&D Batteries, Inc., Conshohocken, Pa.



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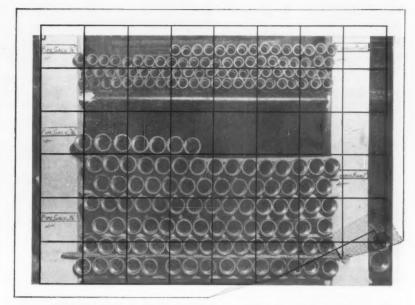
Here's how photography can . . .

Eliminate Inventory Handling

by James H. Greene, Ph. D. Associate Professor of Industrial Engineering, Purdue University

and

Murray Raymond, Jr. Senior Supervisor, Transport Division, Boeing Airplane Co.



PHOTOS make inventory counting easy. For fast counting of symmetrical parts lay a rectangular grid marked on clear film over a photo, count the number of parts in one square and multiply by the number of squares overlaying the parts being inventoried.

PHOTOS take the work out of counting inventory. They are well on their way to becoming the common way to measure stocks of coal, ore, and other mounds of bulk material, and also have a great potential for inventorying storerooms and yards.

Surveying crews used to tramp over mountains of bulk material making measurements. Now the job is done by photos taken from a plane flying at a given height and speed.

You take the photographs and put them in a special projector so that you can plot contour lines and determine the amount in the stockpile. Aerial stock measuring cuts costs as much as 25 percent and it's up to 95 percent accurate.

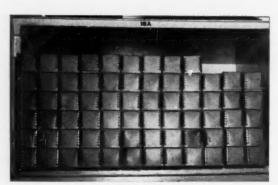
Using Photography

You can take a picture of your stock at inventory time and count the stock from the picture later. You won't interfere with production, and you can forget counting crews, two-part tickets, and a lot of the mumbo jumbo of inventorying. Ordinarily you have to freeze the stock at least long enough to count it, and counting takes a lot of time. With photography, you need just enough time to set up the camera and snap the shutter.

How To Do It

The warehouse or storage area must have predetermined, plainly marked camera stations. The set of

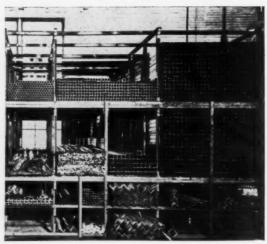
Let Photos Take Your Inventory



KEEPING stock closed up makes it easy to inventory. Be sure that broken lots will show in the photos.



USE the oblique view. Often it will show length, number of rows, etc., and make inventorying easier.



OFTEN you can check inventory directly off the photo. Sometimes enlargements are needed to speed counting.

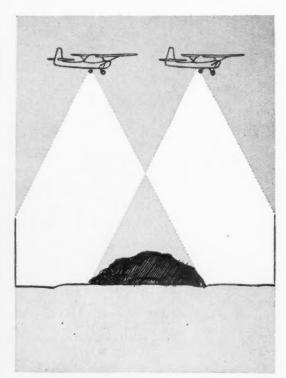
pictures you take from the stations must catch the whole stock. Display broken lots so they will photograph. Boxes and paper must not hide any of the stock. Often you'll be able to take only end views, but don't overlook the value of olique views, which show length, number of rows, etc. They make inventory taking easier.

More Uses

The fast moving quantities of "in process" material can be removed easily by photos. And there is no holdup of material on its way to production.

There are several ways to count the items that appear on the photos. Often the parts can be checked directly off the film, although sometimes it's easier to use an enlargement. You can reduce the time for counting regular-shaped parts (such as lumber and pipe) by laying a rectangular grid overlay of clear film over the picture. By counting the number in one box and multiplying by the number of boxes, you get the total quickly.

Another way to make counting easy is to project the film on a screen to enlarge the picture. A grid can be placed over the picture by another projector. You can change the grid size merely by moving the projector nearer or farther from the screen.



STEREOGRAPHIC shots made from an airplane are placed on a projector which gives the viewer a sense of depth so that he can plot contour lines. This makes it possible to determine the amount of material in the stockpile. The method can cut costs up to 25 percent.

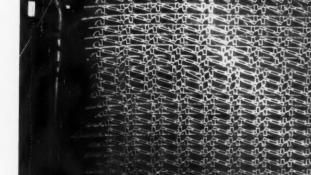


CAMERA STATIONS should be selected so that photos taken from successive stations will show all of

the inventory. Photos are a permanent record and enforce better housekeeping in yards and store rooms.

-Take inventory with photographs and . . . —

- Eliminate production delays and shut-downs caused by physical counting of stock.
- Reduce labor costs. Have counting done by office clerks, rather than high-paid direct labor workers and supervisors.
- Enforce better housekeeping and reduce handling damages. Workers will want their department to look neat in a permanent photographic record.
- Reduce pilferage. You can take the inventory with employees who are not regularly assigned to the stockroom.
- Streamline record keeping. There are no inventory tickets to fill out.
- Reduce inventory-sizes by getting material into production faster.
- Have a permanent and accurate record of the inventory as of specified dates.



A WIDE ANGLE LENS was used in taking this shot of work in process. Photos "stop" the stock so that it can be counted without holding up work operations.



A LIFT TRUCK brings a pallet load of raw materials to a receiving hopper on the third floor. The contents of

the bags are emptied into the hopper and are dropped to the building's second floor where they are mixed.

Production up 50 percent with . . .

Material Handling On



DO-IT-YOURSELF helps put material handling on the payroll. Typical of Pacific Paint's engineering innovations are homemade drawbridges which extend from three of the plant's four shipping dock stalls. The drawbridges lower to the precise level of varying truck bed heights. Needed clearance is maintained between the dock and the truck. Loose bridge ramps are not needed. A winch raises the drawbridge to form a protective barrier at the dock ends of shipping aisles.

Photos courtesy of Automatic Transportation Co.

by Scholer Bangs Western Editor

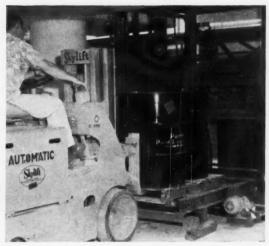
YOU'D expect material handling snarls if your three-story plant had to add machinery to boost production 50 percent. But United Wallpaper Inc.'s Pacific Paint & Varnish Co. Div. in Berkeley, Calif., not only kept handling efficiency high while increasing production but now produces 15 gallons of paint per man-hour. The plant is one of the most efficient in its industry.

How It Happened

W. T. Butner, general manager, says the achievement was made by putting material handling on the payroll—by investing liberally in new material handling equipment and tailoring its use to cope with production schedules.

Nine years ago there was plenty of room for the gravity-flow production line. It was selected because it provided maximum output (8000 gallons a day peak) with the least number of employees. Gravity did most of the work, carrying material from paste mixers on the top floor to roller and ball mills on the first floor, and then down to the straining and container filling department on the ground floor.

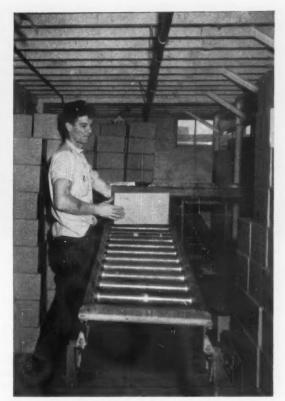
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VERTICAL CONVEYOR is fully automatic, moves unitized loads of up to 4000 pounds to the third floor.

The Payroll

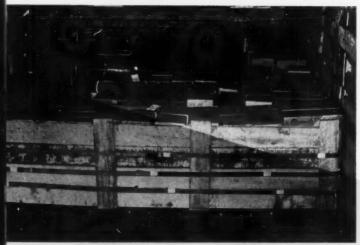




FINGER CONVEYORS speed stock in and out of storage. When raised they bring stock to the storage area, lowered they move stock onto the shipping conveyor.



A SURVEY showed that changing from the old method of storage, above, to the use of modular storage racks, at left, adds 33 percent to the available floor space. The new rack system is expected to be self-amortizing through savings in labor costs and the recovery of floor space valued at 10 cents per square foot.



COMMON BOX CAR braced with gate and steel strapping. This resulted in less labor.

AMHS Announces . . .

Clark Award

"Material Handling—Management's New Frontier" was the theme of the 6th Annual Clark Awards competition. The 1st prize paper is reprinted here. For a complete list of winners and other details turn to page 39.

New Methods Reduce Shipping Costs

By Leonard Churches Ford Motor Company

Part I

THE PROCESS of cold working steel rod, generally referred to as cold heading, is used to manufacture many standard and special automotive parts. This particular type of product was manufactured in the Frame and Cold Heading Plant of the Ford Motor Company's vast River Rouge Operations. Ninety percent of all the bolts, screws and rivets used in Company products were produced in this plant. Over one thousand different parts were manufactured and upwards of 5,000,000 pieces were handled, stored, packaged and shipped each day.

Variation of product and the extremely high volume, rather than the size of the parts, made this a very complex operation. This was particularly true of the storage, packaging and shipping of these products.

Packaging and Warehousing

Finished parts from the final production operation were moved by fork lift trucks and then by trailer train to an adjoining building where they were stored prior to the packaging operation. As parts were required, they were moved to special dumping devices.

Four dumpers, with hoppers, fed separate cartonizing stations. At each station, unsealed cartons were filled with parts by means of a vibratory feeder that moved the parts from the hopper to the carton. This feeder was controlled by a photo-electric eye mounted on a ratio scale, which has proven to be a very accurate method of counting.

Parts were packaged in cartons that were pre-stenciled with the part number and the number of pieces per container. As each carton was filled, the operator pushed it onto a small slat conveyor. The conveyor then fed the cartons into one main conveyor. To avoid jamming, each feeder conveyor was controlled by a photo-electric eye that stopped it if the main conveyor had a carton in the discharge area. Once the carton had passed this discharge point, the feeder conveyor started automatically and discharged the carton onto the main conveyor.

The main conveyor moved the cartons to an automatic sealer. As the cartons entered the sealer the outer flaps, both top and bottom, were directed out from the carton. Rollers then applied glue to the inner flaps and the outer flaps were folded back over the glued areas. A compression belt conveyor then pressed

Winner

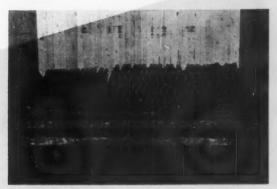
the flaps together.

The compression conveyor deposited the cartons on another conveyor that delivered them to the discharge point. Here, two men removed cartons and placed them on wooden pallets. Each pallet contained only one part with a maximum of seventy-five cartons per pallet and a total weight of 4,000 to 5,500 pounds. Fork lift trucks removed all loaded pallets and placed them in the warehouse storage racks.

Due to accelerated schedules, it was necessary to expand both the warehousing and packaging facilities. This expansion was accomplished by increasing the area and facilities of our operations. A fourth dumper and hopper was added to speed up the packaging operation. New warehousing racks were purchased and their installations doubled the warehousing facilities. Areas for truck and rail shipments were similarly increased.

Shipping

As we examined closely the entire shipping activity we found many inefficient operations which, if eliminated, would substantially reduce our operating costs. Therefore, our efforts were directed toward these operations as a means of cost reduction. Each area of cost is taken separately reflecting first upon the existing method and then upon the proposed method as it



BOX CAR shown here is a permanent dunnage car with dunnage bars securing a load of axles.



BOX CAR shown here is completely loaded and braced. Notice extensive use of lumber.

affected cost.

The following areas of cost reduction have been singled out as the most important:

ITEM 1. Elimination of Box Car Dunnage—Rail shipments of cold headed parts were being made in common box cars. Normally, twelve to eighteen cars a week were shipped from the plant with material consisting of three general types: cast steel truck front axles; large size parts in pallet boxes; and small items in cartons or in company owned durable containers.

Each type of material required a separate section in a box car. The size of the section was determined by the schedules for a particular assembly plant. In the

(Continued on page 92)



Glenn Johnson (left) Clark Equipment Company, hands check of \$1250 to Leonard Churches, Ford Motor Company, for his first prize article which appears here.



COVER STORY

ighing While Handling

by Bernard I. Knill
Associate Editor

Outside of carnivals, it isn't good business to guess at weights. Whether you're manufacturing or assembling, you need exact weights to control your product. When you batch, blend, or proportion materials, you do it by weight. And when it's time to package and ship your product, weight is a key figure.

As a result, weighing is a part of many of your operations. So is material handling. The thing to do, then, is tie the two together by making weighing instruments part of your handling equipment.

This is weighing while handling. Scales can be made part of any lifting, pulling, moving, storing job. You'll find them on lift trucks, cranes, hoists, and conveyor lines, and these are only the fairly simple installations. Scales are built into automated systems to batch, feed, blend, proportion, count. They might be made to remember or to repeat cycles.

Scales that use hydraulic-pressure diaphragms play a part in weighing on the run. You'll find some of their material handling uses in crane scales and lift truck weight indicators.

At Publishers Paper Company in Oregon City, they used to manhandle rolls of newsprint onto a stationary scale for weighing. Recently they installed a crane scale that weighs the ton-and-a-half rolls on their way to the cutter. It's hundreds of hours faster.

The Voit Rubber Corporation plant in Los Angeles takes inventory with a weight indicator fitted on a

lift truck. The driver lifts a stack of trim or slab stock off the ground, takes the weight, sets it down, and repeats. The scheme has speeded the inventory, which has run as high as a million pounds.

The pneumatic load cell is the basis of another type of weighing. Here the weight on the cell is converted to an air-pressure signal which may be measured by a standard process air-receiver instrument. Damping chambers in the cell eliminate minor vibrations.

Electronic weighing is based on the precision strain gauge cell. It works on the principle that a wire's electrical resistance changes when it's stretched. The constant voltage is fed to the load cell through the wire, changes when load pressure stretches the wire. Cables carry the electrical weight data from the cell to the servo system. Its reversible, variable speed motor responds to changes in the voltage. Then the recorder—the system's brain—takes over. Through a series of step cams the rotational information from the servo motor is converted to corresponding digital information on the scale.

Electronic scales are used for crane, track, tank, truck, hopper, and conveyor. You can get instruments to indicate or record weights: printers, dials, direct reading counters, strip charts. You can have information transmitted remotely through telemetering systems. And you can add such accessories as time and date printers, numerical count printers, full figure



WEIGHT CONTROLS are assured at the A. E. Staley Manufacturing Company with 130 scales at work.



TYPES OF SCALES: truck (left); hopper (center); tank (right). They are part of handling and storing.





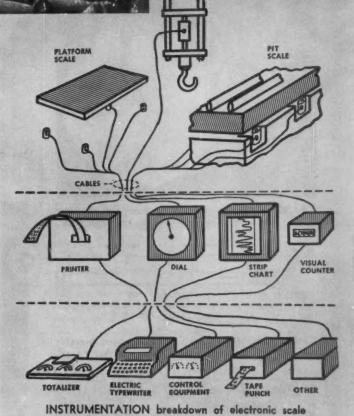
RING at bottom of bucket (left) has load cells built in, weighs buckets of scrap.



BATCHING SYSTEM for concrete uses punch cards to choose from 1500 recipes.



AUTOMATIC weighing and bag filling is done at the rate of thirty bags a minute.



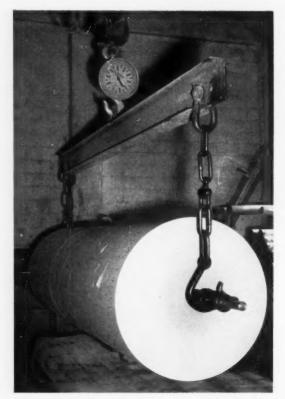




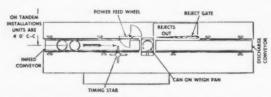
system shows how recording devices expand its uses.

PLATFORM SCALES are used to weigh bags of feed and mixtures. They checkweigh the automatic packers.

HOPPER SCALE (center) holds outgoing shipments of feeds. Truck scale (right) prints weight of cars.



CRANE SCALE weighs rolls of newsprint on their way to the cutter. This system saves time and labor.



CHECKWEIGHING cans on conveyor line prevents underweight and overweight. Rejects are shunted off.



A WEIGHT INDICATOR on the lift truck permits Voit Rubber Company to take inventory while handling.

Weighing While Handling

visual counters, totalizers, 5-channel teletype punchers into the basic electronic scale.

Weighing System Speeds Missile Handling

The Hughes Aircraft Company automatically tests Falcon guided missiles as fast as they leave the production line. The machine is called the Aircraft Missile Weight and Balancing System; it determines with high accuracy the missile's center of gravity (C.G.) and thrust alignment. It does these things automatically:

- · Weighs the missile.
- Finds the longitudinal C.G. to within 0.015 inches.
- Finds the lateral C.G. to within 0.002 inches.
- Measures the thrust alignment to within 0.002 inches.
- Repeats measurements on the same missile to an accuracy of .0002 inches.

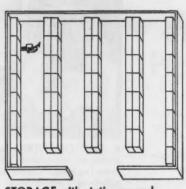
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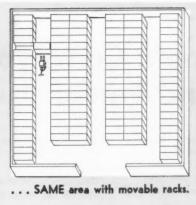


CONVEYOR carries bags from a filling machine to a truck for delivery. This replaces manual handling.



LOAD CELL WEIGHING of the Falcon missile is the basis of a series of calculations for inspection.







STORAGE with stationary racks . . .

Use Your hidden Floor Space

by Wayne J. Wheeler and Carl Guckenberger Manager, Materials Supervisor, Material Control

Flight Propulsion Laboratory Department General Electric Company

IF YOUR storage racks are full and you can't find extra floor space, it's time to hunt for hidden space. You'll find it when you reduce the aisle space in your storage areas. And you can do this by as much as 35 percent.

Here's how it's done. When you use material handling equipment such as fork lift trucks, you need extra space between storage racks to permit mobility. You also have to arrange the racks so that the narrow dimension faces the aisle.

The solution to this problem is to make the storage racks mobile. This is done by equipping each rack with casters. It will reduce the amount of aisle space you need and thus increase storage space. You can see the space comparisons in the diagrams above.

The cost of putting casters on racks will vary with the size of the rack, the kind of floor it will work on, and the weight the rack will carry. With the proper kind of casters, a loaded rack weighing up to 2,000 pounds can be moved by one man.

Your increase in storage space will vary with the capacity of the racks. It is also dependent on how much aisle space you have now and how big your storage area is. Under the best conditions you can double your storage space without increasing your floor space.

What are some of the disadvantages of castered racks? The most obvious is that you have to move the rack every time you load or unload it. This is partially offset by the fact that you can move racks to better positions when they get a lot of use. You can also move them directly to a work area where parts are needed often.

Hints for Using Castered Racks

Here are a few rules you should follow when you decide to equip your racks with casters:

- Do not allow material to protrude from the rack. The castered rack principle depends on racks fitting flush with each other.
- 2. Store the heavy items on lower shelves. This increases stability.
- Check for ceiling obstructions before you put casters on your racks. The casters will add a few inches to rack height, and you have to be sure the racks will clear when you move them.
- Repair any poor floors. You can't make racks roll over rough surfaces.

Coordinate Conveyors and Trucks

LOW cost handling can mean the difference between profit-andloss in a soap warehouse. At Lever Brothers they must and they do, distribute staggering amounts of their products on stop-watch schedules.

The following question-andanswer story tells how they go about it.

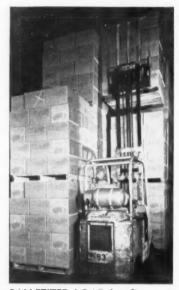
- Q: Describe the Lever Brothers operation in Hammond, Indi-
- A: The Hammond warehouse has 395,000 square feet of floor space. It is the main distribution point for Lever Brothers products in the midwest.
- Q: What do they handle there?
- A: Lux, Whisk, Surf, Breeze, Rinso Blue, Silverdust Blue, Lifebuoy, Dove, Spry, Good Luck Margarine, Imperial Margarine.
- Q: What is the most important handling equipment in the warehouse?
- A: 4,000 pound fork lift trucks.
- Q: Are these trucks of special design?
- A: No, all are standard units, including forks.
- Q: In what departments are they used?
- A: Shipping and warehousing.
- Q: Are the trucks used with any other type of equipment?
- A: Yes, with mechanized pallet loaders and with an electronically shunted conveyor system.
- Q: Describe the handling operation.
- A: Six different products are fed by accumulator lines to a feed conveyor. This leads into a pallet loader. The cartons are palletized. Fork trucks take the

- pallet loads to storage, remove them from storage for shipment.
- Q: What other part of this operation do the trucks handle?
- A: They load pallets into the feeding chamber of the loader.
- Q: How many hours a day do the trucks work?
- A: 20 hours a day, 100 hours a week.
- Q: What sort of maintenance program is used for this schedule?
- A: All fork trucks are checked in the maintenance shop once a week on the midnight shift and given a grease, oil, and filter change.
- Q: What is the average and maximum load?
- A: The average is 2,225 pounds, the maximum, 3,000 pounds.
- Q: Are pallet sizes standardized in this operation?
- A: Yes. 42" x 48" wood pallets are used to handle all products.
- Q: How high are the pallet loads stacked?
- A: Top is 171/2 feet.
- Q: What are some points of interest in this operation?
- A: Cartons coming down the conveyor lines have electric-eye markings. They are electronically shunted at transfer points according to these marks. The loader automatically stacks the cartons on pallets. Then the pallet loads travel by conveyor away from the loader. The lift trucks take the pallet loads off the conveyor; at the point of fork entry photoelectric cells stop the conveyor movement to aid pick-up.

Photos courtesy of Towmotor Corp.



A PHOTOELECTRIC cell stops conveyor movement when forks enter the pallet. Conveyor delivers palletized cartons from stacker



PALLETIZED LOAD has five rows of cartons. Stacking pallet loads three high makes the most of complete floor-to-ceiling height.



PALLETIZED loads are shipped from Lever Brothers' warehouse by truck or railroad car. Palletizing permits unloading with a fork truck.

Get The Most Out Of Your Hoist Rope

By C. E. Schirmer, Chief Engineer, Hoist & Crane Division, Hobbins & Meyers, Inc.

WIRE ROPE life depends upon these twelve factors:

- 1. Proper grade and specifications of rope used.
- 2. Load carried by rope.
- 3. Number of lifts made a day.
- 4. Length of lifts.
- 5. Lubrication of the rope.
- 6. Lubrication of sheave bearings.
- 7. Proper sheave groove clearance.
- 8. Side pulling.
- 9. Atmospheric conditions.
- 10. Rope life records.
- 11. Proper handling of wire rope.
- 12. Maintenance and inspection.

What can you do to improve wire rope life? Here are some good pointers. . . .

Use good rope; poor rope lacks strength and fatigue resistance. Use the rope specified by the hoist maker, but if you have to make up your own mind, these tips may help. The small drums and sheaves of hoists call for extraflexible, extrastrong, preformed, plowsteel wire rope with a lubricated hemp core. For single-line and for some long-lift, multiple-rope-reeved hoists, use nonspin 18 x 7 extrastrong, preformed, plowsteel wire rope, which helps to prevent twisting

Smooth starts save ropes; sudden starts weaken. A sharp-enough snap flattens (and utterly ruins) rope by collapsing its core against a sheave.

An overload now and then probably is harmless, but a steady diet shortens a rope's life. Better get a heavier-duty hoist if the job demands it.

Bends, not pulls, wreck rope. Repeated short lifts punish just those lengths of a rope which are repeatedly bent over the sheaves and drum. Try to avoid using a hoist for only short lifts, but if it can't be done, then pamper the rope by removing occasionally, reversing end for end, and rereeving. It spreads the wear over more rope.

Lubricate your ropes sparingly with dripless ropelubricant. Even hemp-cord ropes need it, because the lubricant impregnated in the core squeezes out in time. Lubricated ropes last longer, because tightly bundled strands are helped to move. When fear of grease-drip prevents lubrication there is no cure but to replace ropes oftener.

Don't forget to lubricate sheave bearings too, unless you're sure they're set for life. Rope scrapes over

a frozen sheave, unining both.

Be sure the sheave's gloove-radius is correct. For 3/16 to 5/16-inch rope the groove radius should be 1/64 inch more than the rope radius; for 3/8- to 3/4-inch rope add 1/32 inch and for 13/16- to 11/8inch rope add 3 64 inch. Remember that sheave grooves deepen and ropes get thinner with wear. Measure groove radius and rope thickness now and then, and if necessary replace the sheave cheerfully, because too narrow agrove can easily abrade away

three-quarters of a tope's life. Above all, never waste a new rope by running it on worn-out sheaves.

Hoists are meant to lifting they shouldn't be used for pulling, because truins the topes. Sidewise pulling is a rope-life thick because if lets the ropes scrape against the bottom block housings and, even worse, often causes the rope to jump the drum grooves and pile up at one end of the drum. At best the rope's life is shortened; at worst it's flattined and ruined outright.

WHAT TO DO ABOUT:

Dampness. Don't worry. It www harm a well-lubricated hoist cable that is getting moderate use. Great Heat, as around a blast furnace will char hemp-cored rope, cause its collapse and ruin. Use

steelstrand-cored rope. Corrosive Fumes damage ordinary wire rope. Best defenses: stainless steel ropes, lubricant coatings, and ventilation.

Explosive Atmosphere requires nonsparking rope. Stainless is best.

Don't uncoil rope by just pulling. You'll twist or kink it, and it will neither work nor last well. The right way is to roll the coil, like a wheel, on the floor (and be sure it's clean, not full of abrasive and metal chips). Reeve the rope as the hoistmaker specified, and be dead certain the bolt clips are put on tight and

Inspect the whole rope regularly for signs of wear, especially broken wires. Run a wad of cottonwaste along the rope and the breaks will give themselves away by snagging. Unless you consider your experience a sure guide, replace 6 x 19 and 8 x 19 rope when four adjacent outer wires are broken in any one strand within the length of one rope lay. For 6 x 37 rope make the rule read "six" instead of four.



STRADDLE CARRIER will move box away as soon as crane fills it with steel beams from wrecked building.



TRAVELING through city streets at automobile speeds, the carriers move material from wrecked buildings to the salvage yard. No time is lost in loading or unloading. When busy, the carriers drop their loads as soon as they reach the yard and another one takes over.



ALL SALVAGED material is stored on pallets or bolsters. Lumber is tiered up to 20 ft high by lift truck.

Good Handling Built This

FFECTIVE HANDLING," says Cleveland Wrecking Co., has made us one of the largest wrecking contractors in the country. Our handling has to be fast and efficient because in salvaging it doesn't take long for the cost of moving and processing to exceed the salvage value."

The company's main handling tools are five straddle carriers and three kinds of special bolsters. A simple frame bolster (made from 4 x 6 inch lumber) is used for lumber, structural steel, and other long, heavy items. Tubular steel racks hold pipe, flooring, and other long but light items that might roll off flat bolsters. Steel boxes (some open at one end) carry brick and other small items handled in bulk and are also used as catch-alls for almost any size object.

The bolsters are used to make sure that nothing is laid on the ground at the demolition site. Everything is unitized. When a steel girder is dragged out of a wall, it is set immediately on a bolster, not on the ground. When boards are ripped out of a floor, they're

put on a bolster or in a rack. Bricks are bitten off a wall by a bucket crane and dropped into steel boxes.

Profit In Unitization

With unitization, there is no need for large storage areas where buildings are being torn down. When a bolster is full, a straddle carrier comes, drops an empty bolster, picks up the full one, and speeds it to the storage yard. There is no long-term storage to crowd the work site.

The main advantage of the straddle carrier is its ability to pick up a load in seconds, carry it through city streets at auto speeds and unload quickly.

One carrier stays at the company's storage yard. The other four shuttle between the various wrecking projects and the yard. Pick-ups are scheduled to meet the pace of the wrecking crews. Several bolsters of each type are spotted at each site so that there is no slowdown if a carrier is delayed in returning an empty bolster.



FORK TRUCKS and straddle carriers work as a team in storing lumber. Two lift trucks work in the yard.



Unloading

Carriers bringing in lumber or brick set down their loads either at the storage area or the hill behind it. If the carriers are busy, they just drop their loads in the yard, and the straddle carrier assigned there moves them up the hill. Any carriers not needed for pickups are assigned to the yard or to the hill, where lumber is processed and brick reclaimed. Also on the hill are pits where rubble is burned.

Lumber to be processed is set in rows, and laborers pull nails and grade it. Lumber with warped or rotten spots is taken by carrier back down the hill to a sawmill near the main yard and the bad spots are removed. Lumber that is OK for sale is left on the hill or carted to the main yard and stacked.

A straddle-dump carrier moves the steel boxes used for bricks. It dumps boxes quickly in the brick reclamation yard between long rows of bricks. The rows

(Continued on page 136)



LIFTING ARMS engage hooks at one end of the box and raise it until the contents slide out the other end.



FRONT END LOADER fills box with brick. Straddle dump carrier will haul it and dump it with lifting arms.



MANEUVERABLE carrier picks up load close to wall, pulls forward, then backs out with only inches to spare.

Two-Way Radio Shrinks Vast Handling Problems

OW can you prevent shortages of parts when you have 4500 different kinds to move through six buildings? Chrysler Corp.'s Highland Park plant solved the problem with two-way radio. Their plant manager, T. R. Patrick, points out: "There have been no part shortages since we started using radio."

A Job for Radio:

More than 5000 are employed at the plant in making torque converters, pistons, wheels, and master brake cylinders, torque bar housings, motor supports, production and replacement stampings, and up to 1,750,000 bolts a day. All these operations are tied together by a complete radio system.

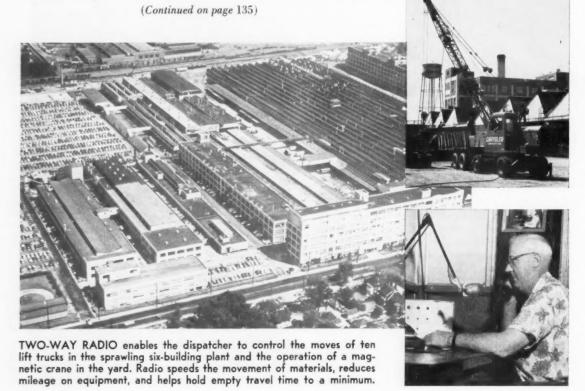
Ten lift trucks, equipped with two-way radio, are spotted strategically about the plant. A magnetic crane for unloading castings from trucks is also radio-equipped. The dispatcher has two-way communication over large areas of the plant.

When a plant needs a bin of bolts from storage, the dispatcher calls the truck driver assigned to the storage area. Of course, the call goes out to all trucks. If the storage truck isn't around, another nearby answers.

Patrick credits two-way radio with cutting truck mileage. He explains: "When the dispatcher has sent a lift truck to a certain area, and a call









How Caterpillar Gets Rid of Refuse... FAST!

At the Morton, Ill. Plant of the Caterpillar Tractor Co. huge quantities of trash and rubbish are generated at many indoor points every day. Containers are placed at these points, and as each is filled, a fork lift truck brings up an empty and carries the full one to the outside pick-up line. Here, the DEMPSTER-DUMPMASTER takes over. Moving down the line, the driver automatically dumps the contents of each container into the 24 cu. yd. packer body, where the material is compressed to a fraction of its former volume. This assures big pay-loads on every trip to the disposal area. Trash and rubbish are enclosed at all times . . . can't blow or scatter . . . fire hazard is reduced to a minimum.

THE DEMPSTER-DUMPMASTER

The DEMPSTER-DUMPMASTER is economical! One-man operation. Big pay-loads from 50 to 100 cubic yards. It's safe! Clearance lifting arms never pass the cab windows, can't injure the operator. It's versatile!

Handles containers below grade or from docks. Can be used for manual loading routes. Containers available in one through six cubic-yard capacity, with or without casters.

WRITE TODAY FOR FREE BOOK

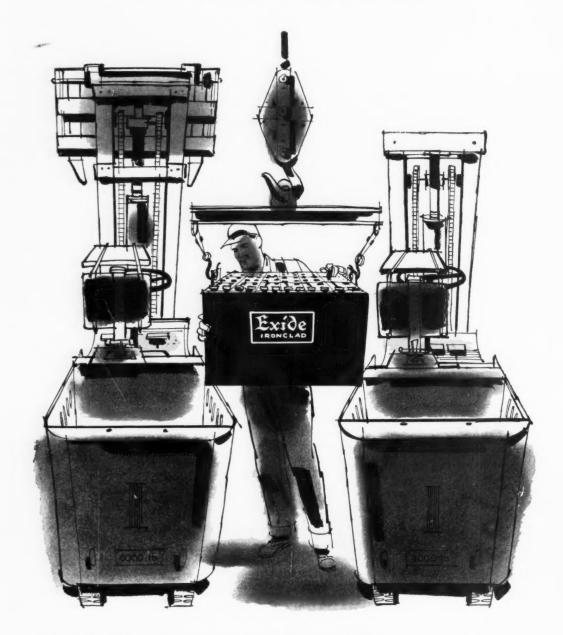
New 40-page book "How to Cut Waste Disposal Costs" Describes Dempster-Dumpmaster and other waste disposal systems.

Mfd. By Dempster Brothers, Inc.



DEMPSTER

Dept. F-8 DEMPSTER BROTHERS, Knoxville 17, Tenn.



Standardization . . . interchangeability . . . versatility Made possible by new Exide-Ironclad Battery



Here's the secret. Unique advanced tubular construction. Every positive plate packs more power. So you get greater battery efficiency—a more compact battery for a given capacity rating.

It packs more power—up to 44% more than batteries you may be using now. But the dimensions are the same. Buy a new, more powerful Exide-Ironclad Battery for a small truck, and you boost its work capacity. Use the same battery to provide normal power for many bigger trucks. Yet it costs you less. Only Exide-Ironclad Batteries give you this extra versatility, interchangeability and extra economy—plus

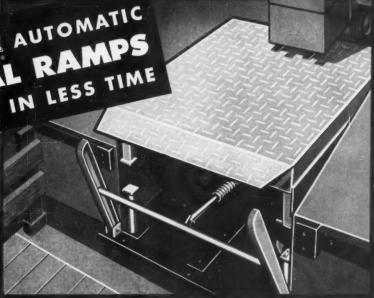
higher power and even longer life potential. Now more than ever, Exide-Ironclad Batteries are your best buy. For details, write Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 2, Pa.

Exide

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INSTALL GLOBE AUTOMATIC NEW! MECHANICAL RAMPS TO LOAD MORE IN LESS TIME

Built with RUGGED SIMPLICITY to take a brutal beating!



Equipping your loading dock with Globe Mechanical Ramps increases its capacity. You can handle more traffic, get trucks in and out faster. In addition you save two ways on both initial investment and operating costs. Starkly simple in design and built with Globe's traditional "beefed-up" strength, the Ramps stand up under punishing conditions to give long, dependable performance.

Fully automatic, and actuated by the truck backing against the mechanism, Globe Ramps are truly unique in the mechanical dock board field. Independent of driver's skill, and whether the driver comes up hard or eases into the dock, Globe Ramps always respond the same way . . . with positive acting counterbalanced linkage that defies weakness, wear or need for adjustment. Rugged beams (not spindly springs) actuate the simple counterbalanced mechanism.

Extra features include operation by either or both push-bars, automatic level lock, automatic compensating hinge for out-of-level truck beds, automatic drop check, safety skirts, simple installation. Three types to choose from.



CONTACT

Counterbalance holds platform in "up" position until truck backs into push-bars. Initial contact counterbalcompensates ance weight.



ACTION

Continued movement of push-bars lowers platform until it meets carrier bed.



3 AT REST

Over travel of push-bar holds platform lip firmly to carrier bed and, thru spring action, holds con-tact as bed level raises or lowers with load changes. lowers with load changes.

SPECIFICATIONS

MODEL TM-68-ML

- PLATFORM SIZE AND TYPE: 6' wide x 8' long, includ-ing lip, non-skid steel plate deck reinforced and welded.
- CAPACITY: Sustains 20,000 lbs. working load for roll-over (dock to carrier) and cross travel (dock to dock).
- over (dock to carrier) and cross travel (dock to dock).

 3. OPERATION: Automatic leveling locks hold platform at dock level for cross travel. Platform raised to "up" position manually by cable release or automatically by push-bars. Lowered automatically by push of truck or trailer on either or both push-bars. As carrier moves away, counterbalance returns platform to "up" position.

 3A. If carrier should pull away from Ramp, platform moves down to dock level position.
- ADJUSTABLE HINGE: "Floating" linkage, between Ram and dock, permits 4" maximum tilt to compensat automatically for out-of-level carrier beds.
- SELF-LEVELING: Ramp "rides" up and down auto-matically as bed height changes during loading or
- RAMP LIP: 14" lip section at angle designed for easy roll-over traffic at all Ramp elevations.
- LIP TRAVEL: Minimum of 15" above and 12" below dock level.
- SKIRTS: Protective sheet guard plates enclose both sides of Ramp platform when raised.
- HINGE PLATE: Field added to dock hinge support channel.
- COUNTER WEIGHT: 3-compartment steel fabricated box suspended in actuating mechanism for concrete ballast to be supplied by contractor.
- INSTALLATION: Complete instructions shipped with Ramp.
- COMMERCIAL STANDARD: Complies with requirements of Industrial Lift and Loading Ramp Institute, as ap-proved by U.S. Department of Commerce.

Specifications for Models TM-68-MS and TM-66-MF sent on request.

Trans-O-Matic

DES MOINES-PHILADELPHIA-LONG BEACH, CAL.



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WORLD'S MOST COMPLETE LINE OF

INDUSTRIAL LIFTS AND RAMPS

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GLOBE



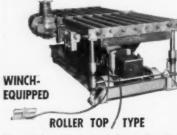


THRU-THE-FLOOR TYPE

Suspended below the floor, with platform top at floor level — lifts skidloads to machine level for effortless production.



Affords flexibility in handling steel sheets of varying widths. Raises sheets to press height without manual lifting.



Motor Driven Winch moves heavy dies on or off presses on free-running rollers. Raised and lowered by two-way foot pedal control.



"LIVE" ROLLER TYPE

Handles multiple stacks of steel sheets. Rollers operated through hand crank and chain, moves stacks to machine position. Lift is controlled through two-way foot pedal.

Your plant, too, may have many moving, lift-

Your plant, too, may have many moving, lifting, or production feeding operations that may be more profitably done with WELD-BILT HYDRAULIC LIFT TABLES. Write, outling your need. We'll be glad to suggest an economical solution.

Weld-Bilt Vertical Floor to Floor Transportation Systems — Lift Trucks — Portable Elevators — Automatic Elevators.

WEST BEND EQUIPMENT CORP.

335 WATER STREET • WEST BEND, WIS. Circle No. 138 on Reader Service Card

COST CUTTING IDEAS



Speeds Screen
Printing

All shapes of dials and devices for electronic equipment are marked by means of miniature screens mounted on metal at Tech-Graphic, Inc.'s screen printing department. An overhead conveyor provides the efficient handling needed for moving small parts through the specialized print process. The conveyor smooths the work flow, reduces lost motion, and carries various shaped parts. It makes tight turns, climbs and dips sharply, and can run almost anywhere in the plant.

Circle 153 on Reader Service Card



Saves Backs, Saves Time

U. S. Plywood's Shasta Division plant uses this fork truck to lift, carry, and turn over plywood panels. In seconds it turns 40 panels, all at once. Before, turning panels was a slow, tiring hand job (each panel weighs 80 pounds). The panels are turned by an attachment on the truck which consists of two pairs of forks mounted on a revolving

plate. One pair of forks slides under the load in the conventional manner. The other pair clamps down on top of the load. Hydraulic pressure exerts enough squeezing force to hold the load securely while it is being turned. Circle 154 on Reader Service Card



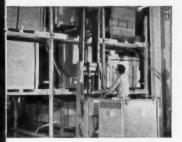
Shipping Case Makes Customers Happy

Northwest Orient Airlines simplified handling and improved custom relations when it switched from wooden boxes to vulcanized fibre cases for shipping delicate electronic equipment. The airline used to have to make a wooden box whenever a transmitter, receiver, or other electronic equipment had to be shipped from its overhaul base to various line stations throughout the world. The custom-made boxes cost \$35 to \$50 each. And screws and metal corner stripping sometimes worked loose and damaged passenger luggage. The airline found most of the wooden boxes could be replaced by three sizes of telescoping containers. The heavy duty cases reduced container weight by 50 percent and made an even greater reduction in cost. The vulcanized fibre containers have a smooth surface that eliminates scratches and mars. Best of all: No instruments have been damaged. Cushions of packing material cradle the top and bottom of the instrument. The container is then compressed with straps to hold the instrument firmly against the packing. Side packing is seldom needed.

Circle 155 on Reader Service Card



LIVE STORAGE FOR DRUGS—in many different size cartons. Live storage racks serve as "quick reference" filling system, give first-in first-out control, eliminate mistakes, save space.



FIREBRICK

awaiting installation in industrial furnaces. Loads weigh tons. Heavy duty rack saves room by using overhead space.



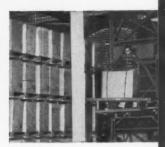
CABINETS

stored between flat coat and final painting. Rack occupies an entire building, gives maximum use of cube, creates organization.



SHEET METAL

brass, copper, monel, and other "specialty" metals are protected against scratching. Rack works like filing cabinet with "drawers".



YARN

stored in 300 lb. cartons. Rack permitted constructing smaller building—savings paid for rack. Gives much needed first-in first-out control. Elevators load and unload cartons.



FASTENERS

In 280 lb. boxes. Rack stores more in less space, reduces order picking costs. Operator picks items from "high rider" truck.



FROZEN FOODS

in freezer room. Rack system is integrated with IBM order processing system. Improves delivery, reduces order filling costs 25%.



PHONOGRAPH RECORDS

are assembled for shipping in this "marshalling" rack. Lanes are unloaded by push button.

Saves time, eliminates errors.

A-F LIVE STORAGE RACKS

How will your A-F Live Storage Rack look? Your procedure, your space requirements, your items to be stored determine your rack design. The only thing "standard" about A-F racks are the mass produced components they are made of—an economy that is passed on to you. Before you build that new building, or add that new shelving, check into A-F Live Storage Racks. Their cost-saving advantages have turned many companies' red ink to black!

Write today for full details.



A-F Conveyors

Custom Engineered Conveyor Systems Packaged Conveyors—Wheel, Roller, Belt, Trolley Pan and Rack Washers Metal Cleaning and Processing Equipment



Today, these hands tape-seal in 1/3rd the time

Under Rule 41 railroads have now approved the use of 2 strips of reinforced tape for sealing corrugated boxes. Trade secret? No, it's just a simple fact: WHEN YOU SEAL WITH SISALKRAFT SEALING TAPE YOU SEAL WITH only 2 strips. Saves 2/3rds in time. Saves considerable in labor, too. And remember, cartons are strong — contents are protected. Write for more facts about reinforced tape and what it can do for you in cutting shipping room costs. American Sisalkraft Corporation, Attleboro, Mass. Manufacturers of tape stock for the Gummed Paper Industry.

SISALING TAPE

Circle No. 17 on Reader Service Card for more information

PACKAGING AND SHIPPING SECTION

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Consider the handling systems enroute. Unitize whenever possible. 3 Mark your packages correctly. Let the experts help you. Select the proper container. Protect against moisture. Use proper interior packaging. Guard against pilferage. Don't be penny wise, pound foolish.

Nine Tips for

Rules that can help

PAULTY PACKAGING is the largest single cause of damage to overseas shipments. Shipping lines and insurance companies estimate that packages shipped abroad are handled about five times more than those shipped domestically. The high damage rate that results has discouraged many manufacturers from going after profitable foreign markets.

Unfortunately, there are no standards—no set steps to follow for export packaging. But the following rules can guide you. They can help you package soundly and get your product overseas intact.



CONSIDER THE HANDLING SYSTEMS ENROUTE. Your product will be handled aboard ship, at port of destination, and at one or more inland stations before it reaches the consignee. Any one of these handlings may be done with inadequate equipment.

By far the commonest handling equipment on ships throughout the world is the 5-ton boom. (NOTE: Shipments are usually based on the long ton, which weighs 2,240 pounds.) Whenever possible, keep your loads under three tons. Heavier loads can usually be handled, but they involve re-rigging, which wastes time and money.

While some foreign ports do not have handling facilities comparable to the larger ports, they are

¹ A 1950 survey by the Maritime Association of New York found faulty packaging the cause of 65 percent of the dock-todock damage of goods shipped out of that port.

² An excellent directory of port facilities is "Ports of the World", published by Insurance Company of North America, 1600 Arch Street, Philadelphia 1, Pennsylvania.

	Cautionary Words and Phrases in English and Foreign Equivalents										
ENGLISH HANDLE WITH CARE	FRENCH	VORSICHT	FRAGILE	MANEJESE CON CUIDADO	PORTUGUESE TRATAR (OM (UIDADO						
KEEP DRY	PROTEGER CONTRE HUMIDITE	YOR MAESSE SCHUETZEN	PRESERVARE DALL'UMIDITA	MANTENGASE SECO	CONSERVAR EM LUGAR SECO						
USE NO HOOKS	MANIER SANS CRAMPONS	OHNE HAKEN HANDHABEN	MANIPOLARE SENZA USARE UNCINI	NO USEN GANCHOS	NÃO EMPREGUE GANCHOS						
THIS SIDE UP	CETTE FACE EN HAUT	DIESE SEITE OBEN	LATO DA MANTENERE INALTO	ESTE LADO ARRIBA	ESTE LADO PARA CIMA						
TOP	DESSUS	OBERSEITE	COPERCHIO	TAPA	PARTE DE CIMA						
WEIGHT	POIDS	GEWICHT	PESO	PESO	PESO						
NET	NET	METTO	NETTO	METO	PÊSO LIQUIDO						
GROSS.	BRUT	BRUTTO	LORDO	BRUTO	PESO BRUTO						
TARE	TARE	TARA	TAKA	TARA	TARA						
GLASS	VERRE	GLAS	VETRO	VIDRIO	VIDRO						
FRAGILE	FRACILE	ZERBRECHLICH	FRAGILE	FRAGIL	FRÁGIL						
KEEP IN COOL PLACE	GARDER EN LIEU FRAIS	KUENL AUFBEWARREN	CONSERVARE IN LUOGO FRESCO	MANTENGASE EN LUGAR FRESCO	DEVE SER GUARDADO EM LUGAR FRESC						
OPEN HERE	OUVRIR ICI	HIER DEFENEN	APRIRE DA QUESTA PARTE	ABRASE AQUI	ABRA AQUÍ						

Export Packaging

you get your product overseas intact

usually good enough to handle most loads. However, storage and handling facilities are often lacking. Check with authorities on the facilities of the port

you are shipping to.2

Don't stop with dockside handling. Consider the inland handling facilities too. They are notoriously poor in many countries. If you overtax them, your product will probably reach its destination eventually, but you may not be happy at how long it takes, or its condition when it gets there.



2. UNITIZE WHENEVER POSSIBLE. Large loads are less likely to be damaged than small ones. Generally, it's to your advantage to unitize whenever the products or containers permit.

The commonest way to unitize is to bind a load of merchandise to a pallet with steel strapping or reinforced tape. Wooden pallets are most often used, but expendable pallets are coming more and more into use.

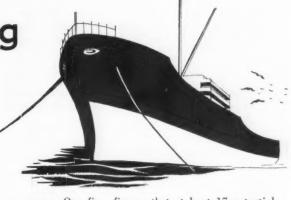
Another successful unit load method is to use large shipping containers. These may be made of wood or metal, or both. They are usually owned by the carriers, and loaded with smaller packages at the pier.

A variation of the master shipping container is the special shipping van or trailer that goes aboard ship as a container. A few large volume shippers who have round trip containers have used them successfully. NOTE: For a summary of the latest developments in Piggyback and Fishyback, see FLOW, Oct. and Nov., 1956.



MARK YOUR PACKAGES ADEQUATE-LY. The world's best container is no better than the worst if it can't get to its destination. Mark each package so it can be read. Use waterproof and salt-proof ink. Mark at least two sides of the container, using letters at least 1¾ inches high. And be sure to mark both in English and the language of the destination country. The chart on page 74 gives you the basic terms in six languages.

There may be some advantage in using the sides of your containers to print an advertisement for your



company. One firm figures that at least 17 potential customers see a container from the time it leaves the factory to the time it's delivered.) But beware of "broadcasting" if your merchandise is highly pilferable. You're inviting theft. If it's absolutely necessary to mark valuable contents on the outside of the container, work out a code that only you and the consignee can understand.



4 LET THE EXPERTS HELP YOU. There are many people who can give you sound advice about your particular export problems. Ask them. You can learn a lot from steamship lines, marine insurance companies, or your packaging suppliers.

Another man who may be able to help you is the contract packager. These specialists are particularly helpful if you export only occasionally. They have the know-how and the facilities to do the job. And since they are usually located at or near ports, they may save you the freight charges for shipping heavy containers overland by rail or truck.



5. SELECT THE PROPER CONTAINER. Let the product be your guide. Remember, freight charges are usually based on weight-to-cubage ratio.

So keep the package small, and keep it light. Here are the types of containers you can choose

from:

Corrugated boxes. These have improved tremendously in recent years. You can now use them safely to ship many things overseas. However, never use corrugated box-

NOTE: This article deals with commercial shipments only. It does not attempt to describe methods of packaging for the armed forces. Consult the appropriate military specifications for armed forces packaging.

(Continued on page 128)

High Speed Strapping Layout

Powerized strapping allows one operator to steel strap and weigh 440 varying sized cartons a day

TWO STRAPPING STATIONS beat, by 55%, the work formerly done by 30 at Levi Strauss Co. Feeding and strapping equipment is teamed with a conveyor system that brings it 25,000 Levi trousers a day, and takes away 440 fully strapped cartons.

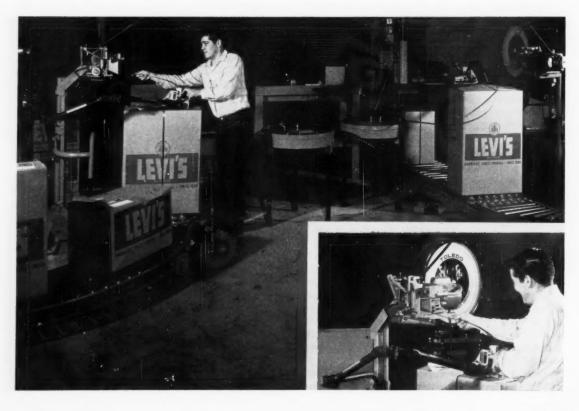
The two powerized strapping stations are right next to each other. One operator runs them both. Each consists of a powered floor conveyor, a ball transfer table, the strapping machinery and dispenser, and a scale. They replaced 30 carts at various spots on the floor, and two operators—three during peak seasons.

Cartons may be from 6 to 40 inches high. They come down the conveyor to the ball transfer table, where the built-in powerized strapping equipment straps them in two directions. After the boxes have been strapped, the operator weighs them, and another worker takes them by hand truck to the shipping area.

The operator has no trouble keeping up with both lines. In fact, the company figures that he could easily handle 42,000 Levi's, or 700 cartons, a day. Even without this increase, the company saves 55 percent with the new system.

Photos courtesy of Signode Steel Strapping Co.







THIS
WRAPPER
IDENTIFIES
THE
KRAFT PAPER
WITH A
DIFFERENCE...
NEW
HUDSON

MAN O'War

For best results don't just "order kraft"!

Specify new HUDSON MAN O' WAR.

Though you may feel that all kraft looks alike—and, therefore, performs alike—there are many differences, potent reasons why Man O' War is a better buy: greater resistance to tearing and bursting . . . easier handling and folding . . . a smoother, brighter, more attractive finish.

And Hudson's integrated operation, from tree planting to the manufacture of finished products, assures dependable delivery, quality and performance order after order.

Unlike any other kraft... Hudson's new Man O' War.



HUDSON Pulp & Paper Corp.

477 Madison Ave., New York 22, New York

Good Packaging Doesn't Cost--It Pays

by J. Y. Orms, Material Handling Engineer Convair Div., General Dynamics Corp.

T'S OFTEN CHEAPER to do a job an expensive way. The method that costs less initially may actually end up more expensive in the long run if it results in rejects, or has to be done over.

We learned that lesson in economics at Convair—Fort Worth in transporting B-58 wing panels between our plant and a Los Angeles sub-contractor.

Each metal skin measures about 80 x 258 inches, and is from .015 to .0625 inches thick. They are easy to damage. And once scratched or damaged, they are useless.

Our old package was a nailed wooden crate, with layers of corrugated between skins. We often received panels in damaged condition—either because the containers couldn't absorb handling shocks, or because of scratches caused by a protruding nail.

Our material handling section recommended a returnable container, consisting of a metal frame lined with waterproof masonite, and neoprene layers between panels. It consists of a top and bottom, hinged along one side.

Although initially more expensive than the old crates, these containers save us money by reducing the number of damaged parts. But that's not all. Because they are returnable, they saved us \$62,000 in container costs the first year they were used.



RETURNABLE CONTAINER is easy to handle, absorbs shocks. Because it can be reused, packaging is faster, cheaper. Old crate is seen at left.





... WHEN YOU NEED IT... WHERE YOU NEED IT!

Magliner Magnesium Pallet Dollies keep pallet loads moving—stock movement fluid. They pay for themselves quickly by freeing men and power equipment from short-haul loading operations. Eliminate bottlenecks...lower loading costs!

Magliner pallet dollies are magnesium light, easily carried back

to the loading point, fast—by one man! Large 31/4" rollers for free rolling movement. Rugged, welded construction for dependable long-life service. Capacities to 4,000 lbs. 14 standard models and sizes.

Write for Bulletin P8-1
MAGLINE INC., P. C. BOX 528, PINCONNING, MICH.
Canadian Factory—Magline of Canada Ltd., Rentrow. Ont.



MAGLINER MAGNESIUM PALLET DOLLIES

Circle 92 on Reader Service Card for more information



Fibre Tubes Make Rods Ride Right

by Harrison Young
Better Packaging Advisory Council

W HEN you reduce your shipping damage by 80 percent you're taking a big step toward higher profits. That's what they did at the Kirsch Company in Sturgis, Michigan. By changing the way they packaged their products, the Kirsch people are now able to make damage-free shipments.

The Kirsch Company makes rods, tracks, and hardware for hanging curtains and draperies. At the Sturgis plant they ship rodding to braches around the country. The rods are 12 and 16 feet long.

Here's how they used to prepare the rodding for shipment—and ran into trouble. The worker would first wrap the rods in paper. Then he would saw a piece of wood as long as the rods. He would tape the rods to the wood and wrap the unit in paper again. In order to get big shipments out this way, men had to be taken off other jobs. Sometimes shipments were held up several days because workers couldn't be spared for packaging duty.

Once the rods were shipped, things got worse. Inside the trucks and rail cars, the homemade packages were crushed by heavy cartons and drums; this would dent the rods. Sometimes the wood warped and split, breaking up the package.

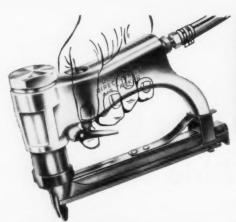
Every month the damage claims piled up. As W. H. Cornell, the eastern sales manager, said, "Our branch managers were terribly annoyed because they had to return the material to us and wait for reshipment. For many of them, these shipping mishaps meant lost sales and lost customers. At our plant we had other troubles with repacking and reshipping—it threw our production schedule out of line. Worst of all, our reputation took a beating."

It was high time to change the package. The company switched to fiber tubes. Now the packing operation is fast and simple, and shipping damage has almost been eliminated. The worker wraps the rods in paper and puts them into the tube. Then he inserts the caps backwards so that the ends of the rods are flush against the caps and staples the fibre walls of the caps to the tube. The rods cannot move up and down in the tube.

Results? The entire shipping operation takes a few minutes as compared to half an hour under the old system. Nowadays most orders are shipped the same day they are received. Fibre tubes also save on carrier fees since they weigh eight pounds less than the wood in an average shipment.

Added together, the benefits of this packaging improvement total up to thousands of dollars a year in direct savings. And this doesn't include the good will the Kirsch Company now enjoys from its customers.





Your plant, too, can cut costs with **DUO-FAST**Automatic Stapling

Shown here are just 4 of the many ways Duo-Fast Automatic Stapling is reducing costs for others. Yes, and you, too, can save with Duo-Fast.

The first step? Simply analyze your present fastening methods . . . particularly those now being done with brads, screws, tape or glue. You'll find mighty few that can't be done faster, neater or easier with a Duo-Fast Stapler or Tacker.

Let your nearby Duo-Fast Representative help you make this analysis now. With over 150 staple-tacking models to draw on, he can show you the safe, accurate, automatic way to streamline your fastening methods.

Free maintenance. And remember: Duo-Fast tools carry our famous Free Service Guarantee. For a Free 28-page Manual of ideas you can use, return the coupon below.

DUO-FAST

Staplers . Tackers . Staples



Leading photographic equipment firm solves precision fastening problem at lower cost with new DUO-FAST Bench Stapler. Air-operated tool leaves both hands free.



World's largest automobile manufacturer speeds production by tacking body interiors with DUO-FAST Air Tackers. The skill and accuracy are built-in.



Maker of automotive accessories
"ended customer complaints" by
stapling large, unwieldy cartons
with DUO-FAST Air Pliers. Provides
better packaging at lower cost.



Metal can manufacturer lines boxcars faster with speedy DUO-FAST Hammer Tackers. Shipping Manager calls it "the best and easiest method!"



Circle No. 54 on Reader Service Card for more information

MATERIAL HANDLING ON THE PAYROLL . . .

(Continued from page 55)

Three fork trucks carried dry raw material, via two freight elevators, to receiving storage on the top floor, and moved palletized filled containers into ground-floor storage. At other times they fed bulk material to the top floor paste mixers and to chutes leading to the first floor ball mills. They also moved heavy drums of mixed paints on the ground level packaging floor.

When the west coast building boom drank up all the paint the plant could make and called for more, Pacific Paint had to crowd in more equipment. Now the plant houses 23 paste mixers, 8 roller mills, and 9 ball mills.

As production capacity rose to 12,500 gallons a day, handling and space problems multiplied.

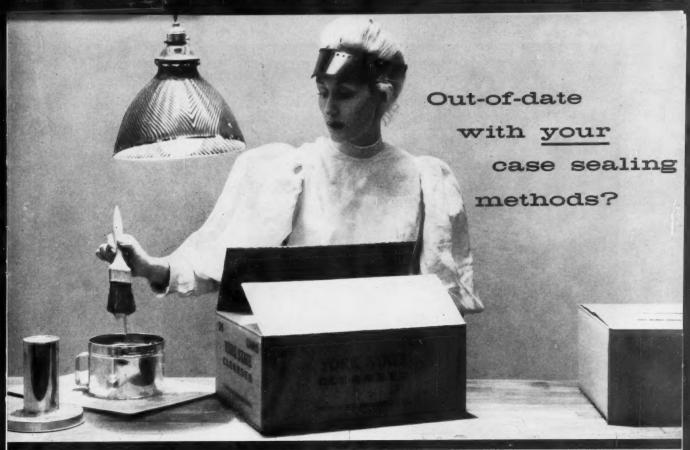
"New equipment was gobbling up floor space," says plant engineer Ronald H. Morey. "We would have drowned in our own production had we allowed even momentary congestion of our diminishing clear areas by work in process. We were saved by a proposal that our trio of fork lifts be expanded to a fleet of powered load movers."

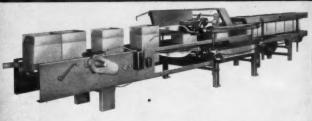
Five additional electric fork trucks were brought to handle heavy loads in production aisles, and eight low-lift walkie trucks were added to keep mediumweight pallet loads moving.

"They've earned their keep from the very start," Morey reports. He says they have been given a five-year amortization on company books, based on savings realized by their reduction of work flow congestion.

A serious in-plant transportation problem was created when 600 end product items had to be stored in a basement warehouse. It was solved by running a 220foot main line, belt-driven roller conveyor from the container labeling room into the warehouse area, where it loops to feed storage bays on either side.

A two-deck conveyor is used in the warehouse. The upper deck handles incoming stock and the lower ones moves stock that is





PACKOMATIC FULLY-AUTOMATIC CASE SEALER

Loaded shipping containers IN, sealed cases OUT—and no operator needed! It aligns corrugated cases, positions flaps, glues, seals and discharges fully-automatically. Packomatic was first with this production-proved machine. It's available in a wide range of case sizes for installation on your present line. Semi-automatic, too.

J. L. FERGUSON CO. Jollet 7, III.

New York, Chicago, Cleveland, Boston, Tampa, Baltimore, Portland, Denver, Los Angeles, San Francisco, Seattle, New Orleans, Louisville, Kansas City and All Principal Canadian Cities.

PACKOMATIC machines include the Bale Sealer — Case Sealers — Opener-Loaders — Case Imprinters — Telescoping Volumetric Filler — Packer-Glue .

Units available, semi-automatic or fully-automatic depending on your needs-

Packomatic T.M. Reg. U. S. Pat. Off.

equipment feeds, forms, positions, loads, seals, and imprints shipping containers automatically

Fully-automatic Packomatic Custom-Engineered machines go all the way—or any part of the way—with your packaging operations. Modernize your present line with a fully-automatic case sealer—or really put it into high gear with a Packomatic that feeds, forms, and positions shipping containers, end-loads them with cans or cartons at top speed, then discharges them sealed and imprinted, ready for shipment. Most important, only one part-time operator is needed for the whole operation. Labor costs are obviously reduced. End-loading techniques shrink paper board costs up to 28% and your whole output takes a sharp climb. Packomatics can save time and money. Let us show you.



Six 5-qt. cans or gallon cans in 201/2" x 131/2" x 913/4" case



Twelve 46 oz. cans



Twenty-four cartons in 121/2" x 103/6" x 81/2" case



Eighteen 7 & 8 oz. cartons



Sixty cigarette cartons King Size: 17% x 111/2" x 22"

TYPICAL CASE LOADING PATTERNS FOR CANS AND CARTONS



Twenty-four 12 oz. cans in 16%" x 1015/14" x 53/14" case



Six No. 10 cans in 221/14" x 171/6" x 71/9" case



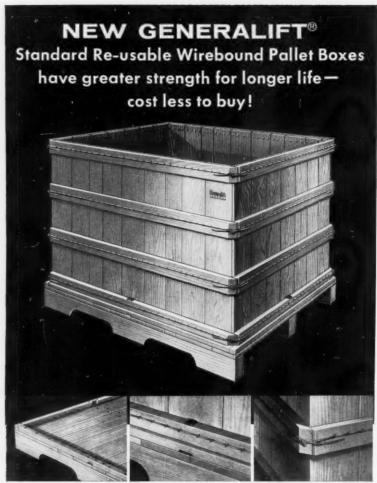
Thirty 1 lb. cartons in 161/2" x 105/16" x 71/4" case



Twenty-four cartons in 191/2" x 101/4" x 7" case



Forty-eight cartons in 22¾" x 23½" x 15¾" case



Restraining cleats on pallet hold all four sides in place and prevent bulging. New Generalocks anchor all four sides to pallet. Permit easy assembly, disassembly. Generaloop closures have strong double wires on specially mitered cleat ends.

> EXPENDABLE PALLET BOXES

Economical one-trip Generalift

wirebound pallet boxes are

of resawn hardwood and can also handle loads to 1500 lbs.

Dimensions: 41" x 35" x 29½" high, outside; 40" x 34" x 24"

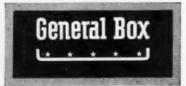
deep, inside. Weight 59 pounds.

Simplified design and improved engineering have made the new Generalift Re-usable Wirebound Pallet Box stronger and more economical. This greater strength for longer life together with lower first costs means even greater economies in pallet box handling. The new design retains the job-proved features of tough resawn hardwood construction with sides bound with strong galvanized wire over hardwood exterior cleats that have always given Generalifts exceptional strength to handle 2000 to 3000 lb. loads and still are of minimum weight. (Also available as open-front bin-type boxes.) Exclusive Generaloop closures speed assembly and disassembly.

STANDARD INDUSTRIAL REUSABLE PALLET BOXES

No. Regular	Catalog No. Open-Front Bin-Type*	Outside Dimensions	Inside Dimensions
IR-L-24	IB-L-24	48 x 40 x 28 1/4	45 x 37 x 24
IR-L-30	IB-L-30	48 x 40 x 34 1/4	45 x 37 x 30
IR-S-24	IB-S-24	40 x 32 x 28 1/4	37 x 29 x 24
IR-S-30	IB-S-30	40 x 32 x 34 1/4	37 x 29 x 30

*Gates available on order.



ENGINEERED CONTAINERS FOR EVERY SHIPPING NEED

Wirebound Crates and Boxes, Generalist Pallet Boxes, Stitched Panel Crates, All-bound Boxes, Corrugated Containers.

There are 10 factories conveniently located throughout the country.

GENERAL BOX COMPANY 1847 Miner Street, Des Plaines, III.

MATERIAL HANDLING ON THE PAYROLL

Continued

being taken out to fill orders.

Storage and picking are speeded by 18 finger conveyors installed last year between stock bays. When raised to the level of the upper-deck main conveyor, the fingers gravity-feed incoming stock the length of the bay. Lowered, they carry picked stock to the lower-deck shipping conveyor.

Probably the most important of the company's current investments in new material handling equipment is aimed at by-passing congested production aisles and slow-moving freight elevators in getting raw materials from the receiving dock to storage on the third floor. A new vertical pallet conveyor (fully-automatic) moves up the plant's outer wall. It carries 4000-pound unitized loads of raw stock and delivers them through an opening to a waiting horizontal conveyor on the third floor.

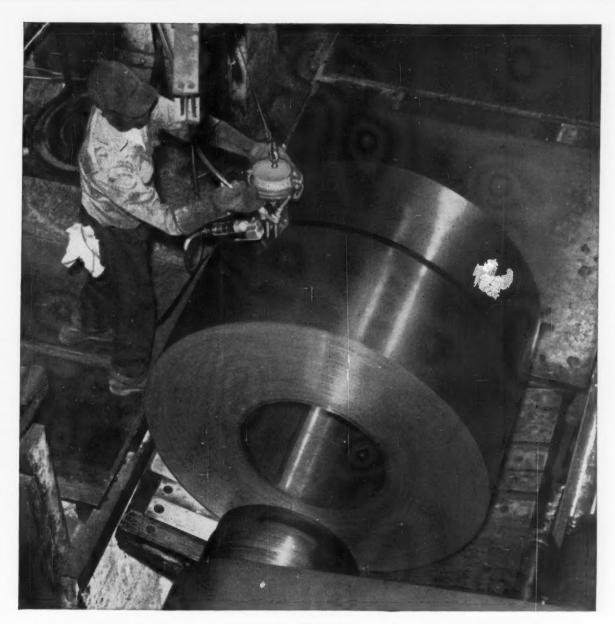
The pallet conveyor is fed at two receiving dock levels, the lower for truck deliveries and the upper for rail shipments. It makes the three-story round trip in $1\frac{1}{2}$ minutes. The equipment cost of \$30,000 is expected to be amortized by direct labor savings within four years.

Before the conveyor was installed it took 20 man-hours to unload a boxcar and move its contents to the third floor storage room, using lift trucks and plant's freight elevators. The vertical conveyor does the same job in three man-hours.

Experiments made during a work simplification survey show that modular rack storage and speeds storage and call out, and uses only two-thirds of the floor space needed for floor stacking of stock items.

"Preliminary estimate indicate that if we convert from floor stacking we will be getting a 33 percent increase in our warehouse storage space," says Morey. He believes that the rack system will be self-amortizing through labor savings and the recovery of floor space valued at 10 cents a square foot.

Photos courtesy of Automatic Transportation Co.



Packing Cost: 3 cents per ton

One steel strap packages this ten-ton steel coil. The strap is regularly applied in about thirty-six seconds. A Signode Model PN air power stretcher pulls the strap to 1600-pound tension every time; a Signode Model RCN 114 air power sealer applies the seal. There's no waste strap, and the cost of the strap and the seal together is only about 27 cents. The strength and low

cost of the steel strapping itself, plus the speed and simplicity of application, rule out any other way of doing the job.

Find out how Signode strapping, tools, and skilled helpfulness with methods can make your product cost less to handle, store, ship and receive. There's no obligation...just call the Signode man near you, or write:



First in steel strapping

SIGNODE STEEL STRAPPING CO.

2618 N. Western Avenue, Chicago 47, Illinois

Offices Coast to Coast. Foreign Subsidiaries and Distributors World-Wide In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto Circle No. 123 on Reader Service Card for more information



Bulletin Covers Power Steering:

"Advanced Design" power steering is the subject of a recently issued bulletin. This booklet explains how this system reduces steering effort 80 percent. Components that contribute to this power steering system's efficiency are illustrated and explained.

Townstor Corp.

Circle 159 on Reader Service Card

Save Labeling Time:

You can save 35 percent in time when labeling bottles, boxes, cans, and cartons with the Schaefer labeler. A 4-page bulletin tells you how. This machine is practical for both short runs and production labeling. Models are available for any operation.

Schaefer Machine Co., Inc.

Circle 160 on Reader Service Card

Handy Spec Sheet on Strapping Tape:

Dutch Brand No. 400 Strapping Tape is fully described in a specification sheet that's yours for the asking. This vinyl-backed tape can be applied by hand or from dispensers. It's pressure sensitive, and can be used to seal packages or strap pallet loads. Conforms to federal specifications. A similar data sheet is available for No. 353 tape, used for waterproof operations.

Johns-Manville Dutch Brand Div. Circle 161 on Reader Service Card

400 Check-Weights a Minute:

The FMC electronic check weigher is described in an illustrated bulletin just offered. This machine checkweighs at rates up to 400 a minute. The literature contains complete specifications.

FMC Packaging Machinery Div., Stokes & Smith Plant

Circle 162 on Reader Service Card

Strapping Helps Product Flow:

Ideas in Action tells how a California container firm uses strapping machines for greater efficiency in unitizing, handling, storing, and shipping loads. Seven photos show how strapping cut packaging and handling time 50 percent and allowed 18 percent more storage in the same area. The folder tells how you can accomplish similar savings. Acme Steel Co.

Circle 163 on Reader Service Card

Catalog Shows Dock Ramps in Action:

The Rotary Automatic Dock Ramp is the subject of a 4-page catalog just released. This ramp is fully automatic, raised and lowered by the power of the truck backing into the dock. No counterweights or power supply needed. Models are available for your needs.

Rotary Lift Co.

Circle 164 on Reader Service Card

Tells How To Plan Handling:

Bulletin No. 5008-H tells how to set up a material handling program. It includes advise on selecting the right truck for the job, determining correct truck capacity for loads to be handled, and other factors such as choosing between pallets or platform loading. Drawings simplify the booklet's outline of a pallet system and recommended pallet design.

Automatic Transportation Co.

Circle 165 on Reader Service Card

Explains Working Ranges:

A bulletin has been published to give working ranges and capacities of hydraulic cranes. Diagrams show operating heights of the low shipper and high shipper. A safe load chart shows capacities of the cranes under various working conditions. Other tables give dimensions, hook speed, boom extensions, road speeds, tractive effort, gradeability and towing capacity.

Austin-Western Construction Equipment Div., Baldwin-Lima-Hamilton

Circle 166 on Reader Service Card

Explains Blending System:

A 16-page bulletin, B-2, describes the Airmerge System for the exact blending of dry pulverized materials. The bulletin's 8 illustrated sections discuss the complete Airmerge operation, including installation, blending problems and explanation of how the system's components function. Photographs and drawings show how dry materials are

homogenized by combining quadrant blending and pulsated aeration. Other illustrations detail the system's various blending methods: the batching scheme and continuous operation.

Fuller Co.

Circle 167 on Reader Service Card

Crane News:

The Thew Lorain News is a quarterly magazine that tells about the doings of Moto-Cranes and related equipment. Issue No. 132 tells how a 75-ton Moto-Crane helps handle 2048 tons of steel for the conveyor system at Anaconda Copper's "Richest Hill in the World."

Thew Shovel Co.

Circle 168 on Reader Service Card

Catalog about Pneumatic Conveyors:

Catalog P-56 deals with pneumatic conveyors. There is a page of explanation, photographs, and diagram of ash conveyors, a page for chip conveyors, and a page for bulk flowing conveyors. The bulletin contains a list of users of the company's equipment.

National Conveyors Co. Inc.

Circle 169 on Reader Service Card

Tips on Pallet Care:

A pocket size booklet tells you how to care for wooden pallets. It contains 16 pages of tips on maintenance and repair. For example, there is advice on how to when to repair damaged pallets or replace them.

National Wooden Pallet Manufacturers Association

Circle 170 on Reader Service Card

Sweeper Story:

Here is a bulletin about two power sweeper models: 705 and 706. One feature described is the Filter-Vac dust control system which eliminates the emptying of a dust bag when cleaning the filter system. Tables give specifications of both models.

Wayne Manufacturing Co.

Circle 171 on Reader Service Card

Film Folder:

You can learn about 17 movies that are available from a recently published brochure. The films depict successful handling systems in lumber, railroad, trucking, paper, bottling, grocery, and



Using Bostitch staples, total packing time per drum is only 4 minutes. In addition to savings, new stapled container gives contents better protection than wooden case.

Saved-\$13,500 a year with change to stapled drum

Garlock Packing Company of Palmyra, N. Y., found a better way to ship heavy lead-tipped rubber gaskets—and gained annual five-figure savings.

They had been packing twenty-five 1½-lb. gaskets in a nailed wooden case. Now they pack the same contents in an octagonal corrugated fiberboard drum with die-cut caps stapled for strength at both ends. A worker fits a cap in position and fastens it quickly with a Bostitch air-driven stapler. Every staple grips securely—exactly where it is needed.

Workers pack 375 gaskets an hour in the stapled containers vs. 100 an hour in the nailed wooden

cases. This new container and fast Bostitch stapling gives better protection, increases efficiency and cuts costs . . . saves this firm \$13,500 a year.

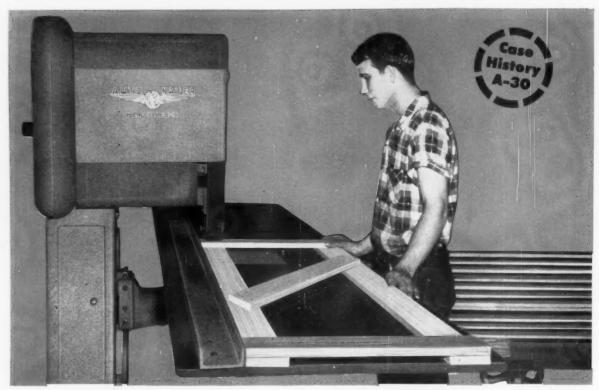
There may be savings opportunities like this in your shipping department. One of 400 Bostitch Economy Men, throughout U. S. and Canada, will be glad to study your shipping operation, at no obligation to you. He may be able to show you where and how Bostitch stapling can improve your shipping and cut your costs.

Look under "Bostitch" in your phone book or send the coupon.

Fasten it better and faster with



Bostitch, 708 Briggs Drive, Please send information on ways star Please send free bulletins on other w	oling helps shippers.	
1 want to fasten: _ corrugated board _ cartons _ fabric	□ leather □ plastic bags □ wood	roofing rubber light metals
Company		***
Address		
City	Zone S	tate



"One Auto-Nailer saves 2600 man-hours yearly on skids alone."



New Dual Hercules-9 Auto-Nailer installation for production of skids in extremely large volume.

Send for FREE book

Auto-Nailer Co. 267 Marietta St., N.W. Atlanta 13, Georgia

- Please send free copy of "101 Ways Auto-Nailer is Saving Industry Money."
- Have your representative call. No obligation.

COMPANY...

THOMASVILLE CHAIR CO., Plant T, Thomasville, N. C., Makers of Character Furniture Since 1904

"To hand-nail our daily quota of large skids would require two men each working 8-hour shifts. Now, one man with one Auto-Nailer does the job in six hours . . . and the skids are more rigid. Thus we not only save 10 man-hours a day to use elsewhere in our plant, but get better skids in the

Thomasville Chair Company has 20 Auto-Nailers at work in their plants saving time and money on skids, furniture components and other items.

AUTO-NAILER bonds wood members together under pressure adjustable up to 1,500 lbs.; drives nails at very high splitpreventing speed; permits instant choice of nail length from 1/2" to 23/4"; drives heads flush or sets (countersinks) uni-; drives heads flush or sets (countersinks) uniformly; offers a choice of nailing techniques.

Seeing Is Believing. Examine your own wood product fastened by Auto-Nailer. You furnish material, we nail and return-no charge or obligation. Send coupon for the "101 Book" that explains how this free service works, or, write for a representative to call.

Auto-Nailer Company



267 MARIETTA STREET, N. W., ATLANTA 13, GEORGIA

Auto-Nailer slashes costs on: Skids, Wood Box Ends, Box Shooks, Cleated Box Panels, Wood Furniture Sub-Assemblies and countless other items.

ADDRESS

. . USEFUL LITERATURE

other industries. All films are 16mm, with running times of 8 to 29 minutes. Also available is a film on safety training for fork truck operators and a film on industrial applications of straddle carriers.

> Industrial Truck Division of Clark Equipment Co.

Circle 172 on Reader Service Card

Blending and Bagging Case History:

This illustrated case history tells how Morningstar-Paisley eliminated dust nuisance and hazards and minimized product contamination in their systems for blending and bagging starch. The article explains in detail the methods used for conveying pneumatically, crushing, mixing, sifting, storing, packaging, and weighing.

Sprout, Waldron & Co., Inc.

Circle 173 on Reader Service Card

Maintenance Chart:

This electric fork truck maintenance chart is printed on stiff paper for easy mounting. It offers tips for getting maximum truck operating efficiency and pinpoints 28 areas that should be inspected either daily, weekly, or monthly. As each point is inspected, the truck operator or maintenance man initials the appropriate block in the chart.

Lewis-Shepard Products, Inc.

Circle 174 on Reader Service Card

Tractor Catalog:

A 16-page catalog (Form CR-631-H) features the TD-18 diesel tractor. This unit is designed to handle a wide range of heavy duty jobs. The catalog has photographic illustrations and schematic drawings; it covers all components of the tractor.

> International Harvester Co., Construction Equipment Div.

Circle 175 on Reader Service Card

Deck Crane Described:

A recently issued folder (No. 515) describes an all-electric deck crane. The bulletin shows the positive load features for capacities up to 25 tons and the crane's safety features. Recommended uses of the crane are aboard marine craft, docks, or other locations where constant lifting is required within a prescribed area.

R. G. LeTourneau, Inc.

Circle 176 on Reader Service Card

Shows Caster Features:

"Need Casters with Brakes?" asks a recently published folder. It gives Circle No. 107 on Reader Service Card for more information

TERRIFIC PULLING POWE



THE NOLAN ONE MAN CAR DOOR OPENER opens or closes any freight car door in 20 seconds or less

The Nolan Model H One-Man Car Door Opener has been in successful use for many years, by thousands of companies who recognize its exclusive features of speed and safety. This popular tool enables one man to do by himself what formerly required the time and assistance of several men, usually taken off other jobs, to tug and yank while risking mangled hands, strained backs, and other serious injuries.

The average time required by one man to open or close a boxcar door with the Nolan Model H is 20 seconds or less. With a few quick pulls on the anchor chain, as shown here, you can get the most stubborn door rolling and wide open in a jiffy.

here, you can get the most stubborn door rolling and wide op Your investment in a new Nolan Model H One-Man Car Door Opener will pay dividends by saving time, life and limbs throughout its long and useful life. It will keep men working steadily and safely without exposing them to the hazards present when make-shift methods are used to open car doors. Note above how operator is away from the front of the door ... away from its injurious, killing effects if it should fall!

Order one or more Nolan Model H Car Door Openers Today!

F.O.B. Bowerston

COMPANY NOLAN BOWERSTON, OHIO

Always the best...now even better

forward-design ROLACODER



AUTOMATIC CASE-MARKING AND CODE-DATING ATTACHMENT

Holds enough ink for a week!

- · Extra compact-adaptable to any conveyor, case-sealer, etc.
- Simplified construction-for trouble-free performance
- Precision-built—assures sharp uniform imprints up to 3" deep, accurately located on case after
- Swing-out mounting for easier maintenance
- Patented "Metalok®" type base holds type more securely, makes copy changing easier

Write today for full details about the new "Series 300 Rolacoder" case-marking attachment



GOTTSCHO, Dept. D HILLSIDE 5, N. J.

In Canada: Richardson Agencies, Ltd. Toronto and Montreal

Circle No. 66 on Reader Service Card for more information

STOP SLOW MOTION STENCIL CUTTING IDEAL WAY

with an



ELIMINATES STENCIL BOARD WASTE. The Ideal Automatic Stencil Machine features Ideal's exclusive automatic paper carriage and line spacer that space letters, words, and lines properly more letter overlaps or rough uneven lines! Each stencil is clean and correct the first time you cut it. Ideal's minimum margin grip gives you added savings, too. You can use $4\frac{1}{2}$ " x 16" instead of 6" x 16" . . . and save a minimum of 20%.

NO CHARACTER HUNTING DELAYS. The Ideal Automatic Stencil Machine makes itself welcome in any shipping room because it makes letter positioning simple and speedy . . . no aggravating delays to hunt for the character you can't seem to find. Just a spin of Ideal's character wheel mounted at a natural reading angle, and the next character is positioned to cut.

LASTS AND LASTS. Ideal Automatic Stencil Machines are engineered to give years of trouble-free operation, even under conditions normally adverse to long machine life

...rugged to meet every shipping room demand. • The Ideal will help you cut plant costs. Write for free literature.

STENCIL MACHINE CO.

104 IOWA AVE., BELLEVILLE, ILL.





BIGELOW-GARVEY COLLAPSIBLE TIGHT-CORNER PALLET BOXES



EXPENDABLE

- THEY'RE REUSABLE
 - Economical
 - Safe and Nea
 - **More Convenient**
 - Quickly Assembled
 - Handles up to 5000 lbs.
- Collapsible When Not in Use
- Specially Made For Your Needs

er 33 Years Material Handling Experience



Jumber company

Circle No. 22 on Reader Service Card Circle No. 29 on Reader Service Card

CAPCO DOCK COVERS GIVE YEAR 'ROUND PROTECTION CAPCO Dock Covers completely enclose the space between car and building doorways protecting loading and unloading during bad weather ... preventing dents ... insuring against loss of heat or refrigeration. 51 different models in any size ery loading problem Write for literature and name of nearest distributor.

622-24 PROSPECT AVENUE . KANSAS CITY 24. MISSOURI

. . . USEFUL LITERATURE

detailed line drawings of 6 types of brake model casters and describes the operating features of each. Tables give dimensions of each type of caster. Copy tells some of the special kinds of jobs some of the casters are especially suited for.

Darnell Corp. Ltd.

Circle 177 on Reader Service Card

Belting Folder:

Here is a leaflet on solid woven white cotton belting. There is column of features and one of facts about the belts. Prices are given. A section treats paraffin treated belts especially designed for conveying materials that stick to the belt. Asphaltum treated belts are also described.

Bullalo Weaving & Belting Co. Circle 178 on Reader Service Card

Get More from Your Lift Truck:

Here is a catalog that gives you 26 ways to get more use from your lift truck. This 48-page book contains illustrations and specifications of attachments that add flexibility and efficiency to fork truck operation. Many attachments are designed for use with forks and others for carriage mounting.

Little Giant Products, Inc.

Circle 179 on Reader Service Card

Case History of Container System:

"Atlanta Lets George Do It!" is the title of a case study of municipality housekeeping. It tells how the George McWhirter Material Handling Company handles waste and refuse collections for Atlanta, Ga. An essential part of the system is the Dempster Dumpster and the containers they handle.

Dempster Brothers

Circle 180 on Reader Service Card

Belt Conveyors Described:

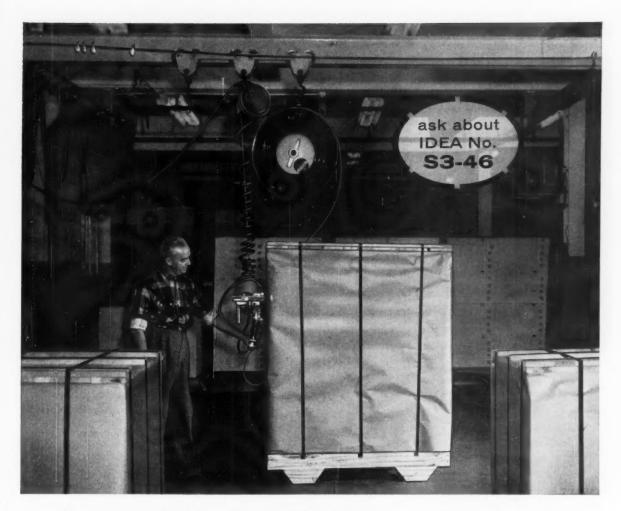
A-F engineered belt conveying systems are described in a recent bulletin. It covers components and accessories, such as various types of belting and conveyor beds. The bulletin also contains photographs of actual installations, showing typical applications of belt conveying systems.

The Alvey-Ferguson Co.

Circle 181 on Reader Service Card

Spotlights Side Handling:

An 8-page bulletin features the Traveloader, a side-loading handling unit. Bulletin 1360B tells how the Traveloader stacks like a fork truck,



Check your *AIM ... Finch, Pruyn does ...

Full-power tool makes strapping faster, easier

Acme Idea Man, E. F. Dillon, introduced the new A4 Steelstrapper to Finch, Pruyn.



power tensioning, power sealing and power cutting; now it's all done with the new A4, the first fully powered steel strapping tool! Finch, Pruyn and Company, Inc., Glens Falls, New York, manufacturers of printing and converting papers, is proving the advantages of the A4 Steelstrapper every day. (Idea No. S3-46)

Both the A4 and a reel of Acme Steel Strapping are mounted on a traveling hoist that can be moved over any part of the strapping floor ... nothing to carry; nothing to cart around. The A4 is easily operated on top of high skids and in other difficult-to-reach places. It can be used on small flat surfaces because of its short strap base.

One hand operates the A4. The operator presses one control and strap is air-power tightened to a pre-determined tension. He presses another on the same handle, and magazine-fed seals are crimped and the strapping is cut... without waste, without effort!

*Check your Acme Idea Man for a demonstration of the new A4 and full information on various overhead mounting systems. Call the nearest Acme Steel Company office or write: Dept. FDS-88, Acme Steel Products Division, Acme Steel Company, Chicago 27, Ill. In Canada, Acme Steel Company of Canada, Ltd., 743 Warden Ave., Toronto 13, Ontario.



STEEL STRAPPING

Circle No. 4 on Reader Service Card for more information





HERE'S WHY-

A Dazzo retractable loading dockdoor shelter provides a safe, dry, draft-free passageway between the door of your building and the door of the freight car or truck.

This saves you important money these four ways:

- 1 It prevents spoilage and damage.
- 2 It cuts heating cost and improves working conditions by sealing off drafts.
- 3 It lowers compensation insurance rates by preventing slipping and accidents.
- 4 It saves man hours by speeding loading regardless of weather and by cutting absenteeism.

CONSIDER THESE FACTS!

Dazzo shelter anchors permanently on the building wall around the door. It retracts or extends in 10 seconds. No tugging, no springs; it works by gravity. Eight different models, custom tailored to fit every need.

DAZZO PRODUCTS, INC.

152 Bleecker St., N.Y. 12, N.Y. Telephone: ORegon 3-5298

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Circle No. 38 on Reader Service Card

. . USEFUL LITERATURE

carries like a platform truck, and delivers like a road truck. It is available in models powered by electricity, gas, LP-gas, and diesel.

Baker Industrial Trucks, Division of The Otis Elevator Co. Circle 182 on Reader Service Card

Shows Vibrating Feeders:

Bulletin 1000 gives photos and data on 8 different kinds of air operated vibrating feeders. Various sizes, capacities, and applications are provided for these feeders. Included with the bulletin is a request for information form that helps you get a feeder design to solve specific problems.

The Cleveland Vibrator Co. Circle 183 on Reader Service Card

How to Use Polyester Films:

Ideas for using Scotchpak heat sealable polyesters are featured in a 6page brochure just published. These films are transparent as cellophane and flexible as thermoplastics; from .001 to .0045 inch thick. The literature gives charts on properties and characteristics, as well as conventional and unusual uses.

Minnesota Mining and Mfg. Co. Circle 184 on Reader Service Card

Case History Offered:

Field Report No. 112 tells how the Conley Frog and Switch Co. in Memphis, Tenn. solved a handling problem. This plant produces railroad equipment and custom forgings. The case history tells how two 8,000 pound capacity lift trucks and a 10,000 pound capacity Karry Krane did the handling job.

Hyster Co. Circle 185 on Reader Service Card

Film Catalog Offered:

The 20th edition of a motion picture catalog is available. The booklet tells how to make bookings, how prints should be handled, conditions of film loans. Some of the new titles: "Cantilever Bridge," "Research in Steel," "The Suspension Bridge."

United States Steel Corp. Circle 186 on Reader Service Card

Oven Conveyor Data:

Armorbelt is the subject of a pair of information sheets. They explain about Armorbelt, and infra-red oven conveyor. Along with photographs of installations and case histories, the sheets provide a list of seven made-to-order features that make Armorbelt suited to its work.

M-H Standard Corp.

Circle 187 on Reader Service Card



Whenever you want to combine one or more screening, washing or drying operations with conveying, you can do it easily, and at low cost, with AJAX Vibrating Conveyors.



Your local AJAX man is qualified to help you. AJAX Vibrating Conveyors are sold by a nationwide organization of representatives who are able, through field experience and training, to give you competent assistance in selecting the most economical and efficient conveying equipment. Cut your non-productive handling costs...write for catalog and name of your AJAX Conveyor man.



FLEXIBLE COUPLING CO. INC. WESTFIELD, N. Y.

Circle No. 5 on Reader Service Card FLOW

"We strap 10,000 more cartons a week with the

Gerrard Automatic Strapping Machine,"

says Donald Janisse, Warehouse Foreman, Oostburg Canning Company, Oostburg, Wisconsin



"Since we installed two USS Gerrard Model 12 Automatic Strapping Machines, using USS Gerrard Round Steel Strapping, our packaging production has increased by over 10,000 cartons a week. One man and one semiautomatic machine have been

eliminated, we get more uniformity of strapping tension and more secure packages, and virtually all accidents in our strapping operations have been stopped.

"All our packaging of non-fat dry milk is the result of government contracts," continues Mr. Janisse. "If we fail to ship a certain number of pounds per week, we are subject to a fine, which obviously could be costly. A government inspector, who is in the plant at all times, continually checks the uniformity of our packaging materials. Under our old manual strapping system, six out of every hundred strapped cartons had to be pulled out of

the assembly line for retying due chiefly to improperly placed straps. This caused a bottleneck in our operations. Now, with the USS Gerrard Model 12 and USS Gerrard Round Steel Strapping, round straps are applied uniformly, production has speeded up and there is less chance of our having to pay a fine."

The low-cost, lightweight Gerrard Model 12 is automatic-makes up to 24 ties a minute. Using economical USS Gerrard High-Tensile Round Steel Strapping, in any size from 14 to 181/2 gauge, you can tie packages of varying shapes and weights without readjusting the machine. Tension can be pre-set and maintained on all packages, and a compression device holds them in position during the tying operation.

For more details, contact your USS Gerrard sales representative. And be sure to mail the coupon for the folder, and for the Gerrard Blue Book of Packaging which gives information on all USS Gerrard products. USS and Gerrard are registered trademarks



Gerrard Steel Strapping Dept., **United States Steel Supply** Division of United States Steel



2937 W. 47th Street, Chicago, Illinois

Please send me folder on the Automatic Strapping Machine and the 36-page GERRARD Blue Book of Packaging. No

Company

Address

State Have Salesman call [

Circle No. 152 on Reader Service Card for more information

HARDWARE PARTS TAKE TO THE AIR AT



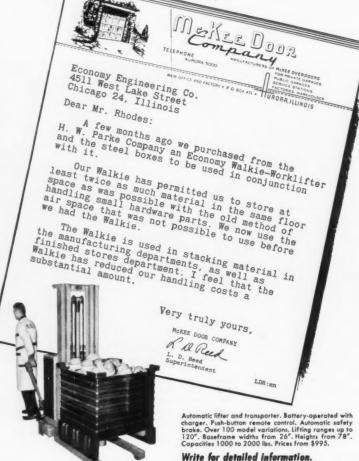
McKEE DOOR

storage space doubled in the same floor area with a

McKee Door Co., Aurora, Ill. overhead door manufacturer, recently mechanized their materials handling to combat shrinking storage space.

With the help of a Walkie-Worklifter, McKee "took to the air" . . . used air space for storing hardware parts . . . storing twice the volume in the same amount of

If there is a better way for you to handle and store, chances are the Walkie is part of the plan.



CONOMY

THEIRING 4524 West Lake Street, Chicago 24, Illinois

Originators of materials handling equipment since 1901.

Circle No. 45 on Reader Service Card for more information

CLARK AWARD WINNER . . .

(Continued from page 57)

normal loading pattern, one end of the car was used for truck front axles; cartonized material was at the other end; and pallet boxes utilized the doorway area. This loading pattern provided a reasonable weight distribution over the entire car floor. Average car shipping weight for this material was between 85,000 and 95,-000 pounds with a 110,000 pound load limit.

Use of the above mentioned loading pattern required three separate bracing jobs in each car. Each section had to be braced for maximum in-transit shocks and the operation was extremely expensive, both from a material and labor standpoint.

Installation of bulkheads resulted in loading delays, excessive carpenter labor, excessive material cost and car detention up to four days.

Normal bracing for one section of a car required the following material and labor:

9	pcs.	2"x6"x9'2"	Hardwood
	pcs.	2"x6"x48"	Hardwood
10	pcs.	2"x6"x14"	Yellow Pine
8	lbs.	20d	Nails
5			Manhours

Based on a minimum of three sections or bulkheads per car, the total material and labor per car was as follows:

355 —Boardfeet of Lumber 24 lbs.—20d Nails 15 —Manhours

The first major cost reduction in the shipping area resulted when the above method of car bracing was completely changed. The new method consisted of using special gates with steel strapping used to retain the load. This method eliminated considerable lumber and labor and generally improved the bracing operation, thus reducing loading delays, in-transit damage to material and car detention.

In the new bracing method, four anchors were nailed to each side of the car approximately eight feet behind the gate. One piece of 11/4 inch by 12 foot steel strapping was fastened to each anchor. After loading one section of the car, a gate was placed in

GAYLORD PIONEERS

PACKAGING IDEAS FOR YOU

More efficient, more economical packaging in corrugated may be waiting for you—just off the beaten path. You have a better chance of finding it when you travel with Gaylord, trail blazer of the packaging industry.

When you need regular corrugated containers... or corrugated to replace heavier, more costly materials... or unusual corrugated packaging for unusual needs, it costs you no more to work with your G-Man.* He always has his eagle eye on new frontiers.

*Your Gaylord Man-of course

GAYLORD
CONTAINER CORPORATION



HEADQUARTERS, ST. LOUIS PLANTS COAST TO COAST

DIVISION OF Crown Zellerbach Corporation



Ask Standard

how to cut costs with conveyors



Although over 19,000 items are stocked, conveyors permit fast and efficient assembly, checking and packing — orders ride safely in durable, lightweight tote boxes.

Milwaukee wholesale drug firm

ups order-filling 50% with 3-floor conveyor system

With conveyors, The F. Dohmen Company, Milwaukee, Wisconsin, designed a system which has permitted them to fill upwards of 50% more orders per day . . . reduce to a minimum, excessive overtime costs . . . reduce errors, delays and merchandise damage. Standard belt and roller conveyors connect every department in the firm's three-story warehouse.

This installation is typical of what Standard can do to solve material handling problems. Standard designs and builds permanent and portable systems and units, using roller, belt, slat, chain, pushbar or sectional conveyors — power or gravity; also spiral chutes and pneumatic tube systems.

For complete facts, consult STAND-ARD CONVEYOR COMPANY, General Office: North St. Paul 9, Minnesota. Sales and Service in Principal Cities.



Floor-to-floor route of conveyor system assures minimum wasted motion by employees. Above, "close-out" checker makes final inspection of orders.



For details on Standard Conveyors of all types, contact the Standard representative listed in your classified phone book or write direct. Ask for Bulletin A-8.



Circle No. 125 on Reader Service Card for more information

CLARK AWARD WINNER

Continued

front of the material. Bands from each side of the car were brought across in front of the gate, joined together, tightened and sealed. Three or four properly spaced bands held the gate securely in position across the car to prevent any movement of the material behind the gate.

The material and labor required to brace each section of a car with this new method was as follows:

4	pcs.	2"x6"x9'2"	Hardwood
	pes.	2"x6"x48"	Hardwood
	pcs.	11/4"	Anchors
8	pcs.	11/4"x12'	Steel
4	pcs.	11/4"	Strapping
			Seals
24	pcs.	11/4"	Staples
2.5			Manhours

Once again, if each car required a minimum of three sections, the total material and labor per car was as follows:

52.5	-Boardfeet of Lumbe
24	pcs11/4" Anchors
288	
12	-1¼" Seals
72	-1¼" Staples
7.5	-Manhours

If we compare our annual operating costs for both methods we find a cost reduction in excess of \$20,000.00 per year. This saving does not include those incalculable savings resulting from reduced loading delays, shorter car detention, and less in-transit damage.

ITEM 2. Reduction of Premium Shipments-The next step in reducing costs in the shipping operation was the result of a two month check of premium shipments made by the plant. In this survey, it was found that upwards of \$250.00 per day in excess costs was being spent for special premium shipments of material-air express, rail-x and pool truck. Many of these items were shortage items that became available after the regular rail shipment had left the plant. Usually, rail shipments to the assembly plants were made every two weeks. Any shortage items required before the next car were sent as a premium shipment, which was an extra ex-

At first, reduction of these costs

seemed to be a matter of making one minor change. However, upon considerable study of the problem it was found that several changes had to be made to realize any substantial savings. First, it was necessary to provide a closer control of the parts scheduled for production. Second, an increase in finished parts float was required for those items run irregularly. Third, equal distribution of available parts had to be made to all shipping points. It was found that some plants received their complete schedule in one shipment thus exhausting the entire float on that part. The next day, when another assembly plant required the same part, there was no stock and the part was back ordered. Later this part was shipped as a premium shipment.

The fourth and final change was to make weekly shipments to all branches. Prior to this time, most rail shipments required two or three cars to meet schedules. Weekly shipments meant that most back orders could be handled as a routine parts shipment in the following week's car with only a few days delay resulting. This change eliminated nearly fifty percent of the premium shipments.

After all the aforementioned changes were in effect, premium shipments dropped off to a point where the costs were reasonable. It was estimated that the above mentioned changes resulted in annual savings in excess of \$25,-000.00.

ITEM 3. Elimination of Common Box Cars-As mentioned earlier, the cost of bracing car shipments was extremely high even after changing to steel strapping. Although permanent dunnage (P.D.) cars had been requested for all rail shipments, it was nine months before the first cars were available. As the cars became available they were immediately placed in service, yet it was an additional two months before the remaining P.D. cars arrived. Once all the cars were in operation, costs were cut drastically. No material expense was incurred with these cars and the labor was reduced to approximately one and one-half manhours



Oval steel strapping holds this huge load of lumber even in this stress position. This dealer finds A. J. Gerrard's Oval steel strapping cuts strapping costs 50%.

Stahlman Lumber Company --

Cuts strapping costs 50%... time by over 12,000 hours!

"Gosts less than half the price of other strapping materials. We started using A. J. Gerrard Oval steel strapping about two years ago, and have found that because of the much greater lineal feet per pound yield of Oval strapping, we get 50% more footage for approximately the same price as any other strapping material", reports W. J. McClain of Stahlman Lumber Co., Houston, Texas.

"Easier to use too! Our A. J. Gerrard strapping tool quickly tensions, twists and cuts the strapping in one fast operation. It's not only faster, but we've also found that we're saving two to three feet of strapping per package because of less waste."

"And the manpower we've saved! For example, because we now use modern strapping and handling techniques, an operation that used to take 4½ man-hours is now a 10-minute job. We figure we're saving about 12,480 man-hours per year."

Worth investigating. Clip the coupon below to your letterhead. Find out how you can use Oval steel strapping in your operations... how you can cut your strapping costs in half.



Using an A. J. Gerrard Oval steel strapping machine this operator can tension, twist and cut the strapping in one fast operation.



Clip this to your letterhead

A.J. GERRARD

Hawthorne Court • Melrose Park, Illin

- SEND DETAIL INFORMATION ON OVAL STEEL STRAPPING.
- I'M INTERESTED IN A COMPLETE STRAPPING SURVEY OF MY OPERATION.

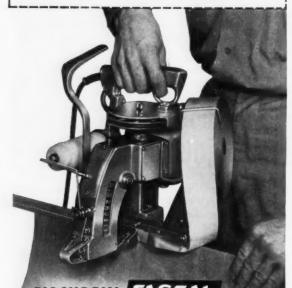
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NOW!

TAPE-BOUND CLOSURES

with the
FISCHBEIN Portable
BAG CLOSER





FISCHBEIN FASEAL TAPE BINDING ATTACHMENT

- Perfect tape-bound closures
- · Complete portability maintained
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2720 30th Avenue South, Minneapolis 6, Minn.

Name____

Address

Circle 57 on Reader Service Card for more information



SPEEDRACK SAVES SPACE

STORAGE PRODUCTS CORPORATION

Write for New Catalog

4400 OAKTON ST. SKOKIE • ILLINOIS



Circle 127 on Reader Service Card for more information

FLOW

CLARK AWARD WINNER

Continued

per car. The entire operation was speeded up, loading delays were eliminated, car detention was cut to two days and in-transit damage was practically eliminated except in cases of rough handling by the railroads.

The complete changeover to permanent dunnage (P.D.) cars, requiring sixty-five cars, resulted in an annual savings in excess of \$17,000.00. These savings were in addition to the initial savings for bracing box cars with steel strapping.

ITEM 4. Revision of Car Loading Methods-Changes in the car loading methods was a most difficult problem. First, we were confronted with the normal reluctance to change because rail shipments had been loaded the same way for years. There were always numerous reasons why any proposed method change would not function properly. However, after extensive study of all the problems, lengthy discussions and considerable selling, higher management within the plant decided the proposed plans should be given a fair trial. Every effort was put forth by these people to obtain the full cooperation of the floor supervision. In many cases, it was impossible to put on paper what happened in actual practice. Each problem had to be resolved as it came up and certain minor changes in the new methods had to be made immediately to compensate for the various problems. Part II of this article will appear in the September issue.





One of six basic models...REVOLVATOR Series 54.00 Go-Getter for use in explosion hazardous areas for chemical and related companies with Class I Group D or Class II Group G hazards designed at the request of one of the country's leading safety authorities. This electric lift truck meets requirements for both hazards and utilizes screw type housings hydrostatically tested to pressures far beyond those required. Additional safety feature—hydraulically operated disc brake.

Therefore: Whether you need a standard piece of material handling equipment or specially designed equipment, call on

REVOLVATOR CO.

8739 TONNELE AVENUE, NORTH BERGEN, N. J.

Circle No. 157 on Reader Service Card for more information



Manufacturer: Crate-Rite Manufacturing Co., 1015 Orient St., Oakland, Calif.

PLY-VENEER builds 'em strong and light enough to fly

Tare weight reduced by 50 lbs., damage claims eliminated and container costs cut 15%...these are the reasons PLY-VENEER $^\circ$ is used in this casket crating application. For these same reasons you can cut your shipping costs with PLY-VENEER. Whether you are shipping by land, sea or air, PLY-VENEER crates are strong, lightweight and damage-resistant.

Use Type I PLY-VENEER for domestic shipments...specify Type II (overseas) high wet-strength panels that meet federal requirements for export shipments. Both types can be sawed, routed for folding and fastened with nails, rivets, staples, glue or screws. Smooth kraft surfaces are easily printed, silk-screened or stenciled with your brand name or sales message.

Check your packaging specifications and look to PLY-VENEER to cut costs. It can replace bulkier, more costly materials. You can choose from 1/10", 1/8", or 3/16" core thicknesses. Widths up to 8 ft. and lengths from 3 inches to 16 feet.

PLY-VENEER® consists of Douglas fir veneer core overlaid with kraft liner-board facings. Distension of core increases dimensional stability.

For literature and samples, write:
WEYERHAEUSER SALES COMPANY,
Special Products Division,
Tacoma, Washington

PLY-VENEER®

A WEYERHAEUSER 4-SQUARE FOREST PRODUCT

CATALOGS and BULLETINS

offered in advertisements in this publication

Mass Handling . . . of small parts and work in process is made easier by the use of the Powell Flowmatic material handling system. Full details available from The Powell Pressed Steel Co.

Circle 113 on Reader Service Card

Aluminum Ladders . . . are completely non-sparking and safe to use around highly inflammable materials. Can't rust, rot, sprinter or burn. Details available from Aluminum Ladder Co.

Circle 144 on Reader Service Card

Over 70 Actual Conveyor Installation . . . in manufacturing, wholesaling, retailing and service industries are illustrated and described in a new handbook available from The Rapids-Standard Co., Inc.

Circle 14 on Reader Service Card

"101 Ways Auto-Nailer is Saving Industry Money" . . . is the title of a booklet on their automatic nailing machine and is offered you by Auto-Nailer Co. Circle 21 on Reader Service Card

Conveyor Drives . . . Anchor overhead conveyor drive units are available in all sizes for constant or variable speeds. Complete details are available from Anchor Steel & Conveyor Co.

Circle 18 on Reader Service Card

Metal Process Belts . . . offering a conveying medium in temperatures from sub-zero to 2100°. Illustrated literature is available from Ashworth Bros., Inc.

Circle 19 on Reader Service Card

2-Way Belt Radio . . . Small transistorized receiver and transmitter comes in two leather pouches worn on the user's belt. Can be used by guards, maintenance men, mechanics, firemen, etc. A booklet is offered by Radio Corp. of America.

Circle 115 on Reader Service Card

Industrial Tires . . . which are said to give $5\frac{1}{2}$ times more cushioning, better traction and longer wear are described in literature from U. S. Rubber Co.

Circle 136 on Reader Service Card

Self-Driven Head Pulley . . . for conveyors eliminates all hazards due to exposed chains, sprockets, etc., and eliminates the need for space- and time-consuming safety measures. Details available from Georg Von Opel Corp.

Circle 137 on Reader Service Card

Silicone Greases . . . which won't melt or drip at +450° F are described in a booklet listing ways to improve lubrication and reduce maintenance published by Dow Corning Corp.

Circle 44 on Reader Service Card

An Automatic Bulk Handling System . . . based on metal bins plus filling and discharging equipment for container cars and trucks is described in literature from Tote Systems, Inc. Circle 133 on Reader Service Card

Certified Job Studies . . . relating to your business and how the use of material handling equipment can result in savings for you are available from Towmotor Corp.

Circle 134 on Reader Service Card

Truck Cranes . . . which convert quickly and easily for use as back hoes, crawler cranes, and special cranes are discussed in literature from Marion Power Shovel Co.

Circle 146 on Reader Service Card

Build Your Own Crane Bridge . . . New 'Load-Lifter' components make it economical to erect your own ½ to 10-ton crane bridge with span up to 50 feet. Complete information is offered by Manning, Maxwell & Moore, Inc.

Circle 95 on Reader Service Card

A Complete Strapping Survey . . . of your own operation and information on oval steel strapping are offered by A. J. Gerrard and Co.

Circle 61 on Reader Service Card

"How to Cut Waste Disposal Costs"... is the title of a 40-page book describing the Dempster-Dumpmaster and other waste disposal systems. It's yours for the asking from Dempster Brothers, Inc.

Circle 39 on Reader Service Card

Fast, Local Maintenance . . . is part of the service that is sold with every Clark truck to assure maximum operating efficiency at all times. Specific details on this service and their complete line of trucks is available from Industrial Truck Div., Clark Equipment Co. Circle 33 on Reader Service Card

Automatic Case Sealer . . . which feeds, forms, positions, loads, seals, and imprints shipping containers is described in literature from J. L. Ferguson Co. Circle 56 on Reader Service Card

No warehousing tie-ups here...



because no sudden failure here...

For narrow aisle, walkie, or heavyduty trucks . . . no battery equals the dependability of an Edison with <u>new</u> active material!

New active material—an Edison research exclusive—now gives the battery specifically designed for industrial trucks longer life than ever before. You can depend on an Edison for full-shift availability even in the most rugged service.

Another big advantage: the Edison jobproved automatic charge control. It cuts maintenance costs, reduces charging time, protects batteries against excessive overcharge.

Let us prove Edison is your best battery investment. See your Edison man for information—whether you want to purchase or lease—or write Storage Battery Division, Thomas A. Edison Industries, West Orange, N. J. In Canada: International Equipment Co., Ltd., 90 Bates Road, Montreal, P. Q.



Celebrating 50 years of progress, production and continuing research . . . a background that brings you the world's longest lived, most dependable storage battery – the battery that's built with tomorrow in mind.

Edison NICKEL-IRON Storage Batteries

... a product of Thomas A. Edison Industries of



Circle No. 97 on Reader Service Card for more information

CATALOGS

Continued

Gas Trucks . . . which offer extra visibility, load stability and fast cycle operation in capacities from 15,000 to 20,000 lbs. are discussed in Bulletin #5230 from Yale & Towne Mfg. Co.

Circle 142 on Reader Service Card

Pressed Steel Rigid Casters... Formed from one piece of heavy gauge steel, these 51-A casters have a deeply embossed base and double formed ribs on the legs. A steel sleeve fits over the axle to increase strength and prevent axle wear. Details on their complete line is available from Bond Foundry & Machine Co. Circle 23 on Reader Service Card

Time Studies Show . . . that the Tennant "80" industrial sweeper replaces 3 to 15 men with push-brooms. It can sweep over 100,000 sq. ft. an hour in open areas. The dirt hopper holds up to 800 lbs. and dump hydraulically. Full information is available from G. H. Tennant Co.

Circle 129 on Reader Service Card

Pneumatic Airtube Systems
... which give fast, sure in-plant
movement of correspondence,
punch cards, drawings, samples,
tools and small parts are described in literature from Lamson
Corp.

Circle 89 on Reader Service Card

Hazardous Areas for Lift Trucks . . . are now made safe with the LP-Gas powered trucks by Hyster. Complete information is available from the Hyster Co.

Circle 73 on Reader Service Card

Tractor Shovel . . . offering 25% more capacity than before, the H-25 "Payloader" easily loads and unloads box cars with narrow 6-ft doors, has complete power shift transmission and power steering. Further information is available from The Frank G. Hough Co.

Circle 71 on Reader Service Card



READER SERVICE SUMMARY

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City Zone State		
PLEASE SEND ME ADDITIONAL INFORMATION AND LITERATURE ON		LED BELOW.
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812 HURON RD.

CLEVELAND 15, OHIO

FIRST CLASS PERMIT No. 8066 SEC. 34.9 P. L. & R. CLEVELAND, OHIO



Reader Service Su

Carton bottomer

Item

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BUSINESS REPLY CARD
NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

34 POSTAGE WILL BE PAID BY: Reader Service Department

FLOW

812 HURON RD.

CLEVELAND 35, OHIO

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FIRST CLASS PERMIT No. 8066

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Split ram attachment Packaged crane Hand truck power page Packaging machine . Fork lift truck Carton packer Powered walkie Combination straddle Laminated tires Reinforced, waterproof Pneumatic conveying Tubeless receiver Magnesium ramp Press-on wheels Barrel lift Plate handler Hydraulic lift Plastic bucket Filled carton fastener Self-standing racks Collapsible box Car unloader for bulk Aluminum foil sealing Folding wooden conta Case stacker

Item Power Steering Labeling Machine Strapping Tape Electronic weigher Strapping machines ... Dock ramps Planning material han Hydraulic cranes Blending system Crane news Pneumatic conveyors . Pallet care Industrial sweeper Material handling film Blending and bagging

Service Summary—(continued)

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Continued

Automatic Stencil Machine . . . featuring an automatic paper carriage and line spacer is discussed in literature from Ideal Stencil Machine Co.

Circle 74 on Reader Service Card

Unitized Conveyor Tables . . . This all-purpose portable belt conveyor, work table and straight line production system, with or without side leaves, is available up to 100 feet long in 10 ft. easily assembled sections. Further information is offered by Island Equipment Corp.

Circle 76 on Reader Service Card

Caster Catalog . . . A 20-page condensed Caster catalog, No. 157G, gives information on their complete line is available from Faultless Caster Corp.

Circle 55 on Reader Service Card

Portable Bag Closer . . . assures perfect tape-bound closures, is completely portable and easily removed when tape bining is not required. Details and a complete catalog file of bag closing equipment is offered by Dave Fischbein Co.

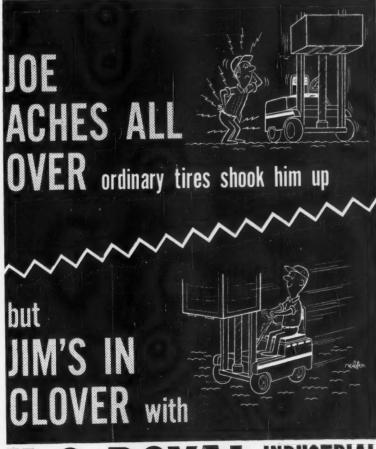
Circle 57 on Reader Service Card

Kraft Paper With a Difference . . . is the way Hudson Pulp & Paper Corp. describe their new Hudson Man O' War kraft paper. It is said to offer greater resistance to tearing and bursting, is easier to handle, and has a smoother, brighter, more attractive finish.

Circle 72 on Reader Service Card

Automatic Weighing and Bag-Filling Machine . . . An illustrated folder on the Wey-Mor that demonstrates true flexibility in production line weighing is yours for the asking from Lynch Corp.

Circle 88 on Reader Service Card



U.S. ROYAL INDUSTRIAL TIRES

5½-times more cushioning . . . better traction . . . longer wear! Why let floor

irregularities shake and fatigue your drivers, shift your loads, perhaps even damage your vehicles? Tests prove the U. S. Royal Innacush* delivers up to 575% more cushioning against impact—plus extra traction and extra wearability that can mean big money savings to you!

U.S. Royal Tires

U.S. ROYAL Innerush — the original cushion solid—softest ride, longest wear

U.S. ROYAL Grip-Matic — top traction choice in industrial pneumatics



Write J. A. Watson, Mgr., Industrial Tire Dept.



United States Rubber

Rockefeller Center, New York 20, N. Y.

In Canada: Dominion Rubber Co., Ltd.

Circle No. 136 on Reader Service Card for more information

First costs are important...





but it's REPLACEMENT COSTS THAT HURT!





...unless you specify

MONARCH SOLIDS









All lift truck tires may look alike, but there is a definite difference in their long-range performance and wear resistance. The "hidden" factor is the basic rubber compound. Many users learn this the hard way . . . by costly replacement experiences.

Made from special COMPOUND T-48C . . . the toughest natural rubber stock developed to date ... MONARCH solids feature better raw materials than "premium" passenger car tires. They wear better and cut replacement costs because they actually are made better.

There is a type and size of MONARCH industrial solid tire for every materials handling truck, including special compounds for extra-tough applications.

MONARCH

210 LINCOLN PARK . HARTVILLE, OHIO

. 7-225 General Motors Bldg., Detroit, Mich.

• 2353 No. California Ave., Chicago, III.

ASK YOUR MONARCH DEALER ... OR WRITE DIRECT ... FOR CATALOG MR-457. IT HAS 16 PAGES OF FACTS, SPECIFICA-TIONS AND SUGGESTIONS TO HELP YOU SAVE MORE ON SOLID TIRES.

Circle No. 100 on Reader Service Card for more information

NEW EQUIPMENT SECTION

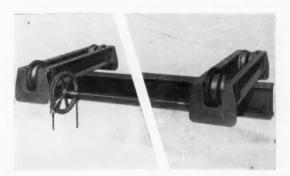


Split Ram Handles Steel Coils Two at a Time

Here is a split ram attachment for lift trucks that will handle steel coils or other cylindrical objects two at a time. Versatility is added by the fact that it can also handle loads on pallets or skids. The attachment consists of a pair of forged steel rams mounted on the elevator plate and pivoted at the upper end. This split ram is generally mounted 18 inches above floor level in the low position. Total load which can be handled with the rams or split is limited only by the capacity of the truck on which it is mounted. The hydraulic cylinder that operates the rams is double acting, anchored to the elevator plate at one end, to the crosshead at the other.

Elwell-Parker Electric Co.

Circle No. 189 on Reader Service Card

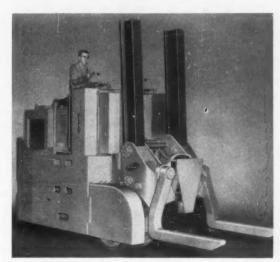


Carton Bottomer Drives 4,000 Staples Without Reloading

Cut stapling time in half with the Golden Belt box bottomer, so called because its load of 4,000 copper-finished staples are partially cohered into a 10-pound coil. Motor driven, it can drive up to 190 staples a minute. It closes the entire bottom of boxes up to 24 inches long in one operation, with no lost time for reversing the box. Since it drives its entire 4,000-staple belt without reloading, it eliminates 75 percent of the reloading time needed for conventional machines. Its closures comply fully with Rule 41 and all other parcel post and overseas shipping regulations. The manufacturer claims it costs less than half as much as an equivalent wire stitcher. Inset shows staple belt.

Bostitch

Circle No. 188 on Reader Service Card

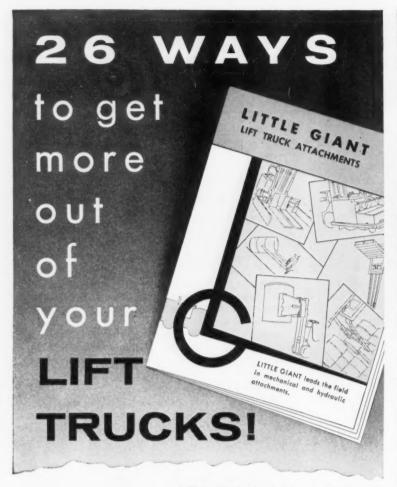


Packaged Crane Announced

A line of underhung crane kits has been put on the market. These packaged cranes are available in capacities from $\frac{1}{2}$ to 10 tons with spans up to 50 feet. Each kit includes two completely assembled end trucks, cross shaft bracket and bearing assemblies and shaft couplings, 20-foot hand chain, chain wheel complete with guide, and a set of easy-to-follow instructions.

Shaw-Box Crane & Hoist Division of Manning, Maxwell & Moore

Circle No. 190 on Reader Service Card



LITTLE GIANT

LIFT TRUCK

ATTACHMENTS

LITTLE GIANT—leader in the field of lift truck attachments—has now compiled the first complete catalog describing its many hydraulic and mechanical cost-cutting devices which make lift trucks more useful, efficient and economical.

Many can be used with forks; others can be mounted on the carriage. The mechanical attachments are simple and inexpensive—as low as \$295.00. The hydraulic attachments are rugged and can handle heavy loads safely and rapidly.

One or more of the attachments described in this new catalog will help YOU cut costs in YOUR plant. Standard units are available from stock and will be shipped to you on a 10-day trial basis. LITTLE GIANT guarantees them to do YOUR job to YOUR satisfaction.

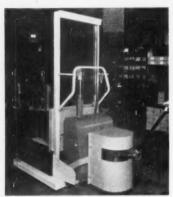
Write or telephone for this new catalog today.

LITTLE GIANT PRODUCTS, INC. 1560 N.E. Adams Street, Peoria 3, Illinois Export Department: 8 S. Michigan Ave., Chicago 3, Ill. Manufactures of quality products for 40 years Representatives in Principal Cities

Circle No. 86 on Reader Service Card for more information

Power Package Converts Hand Trucks

The Powr-Wheel is a power package that converts 4-wheel hand trucks, floor sweepers, portable elevators from manual to

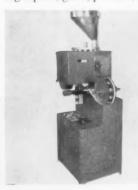


power propulsion. You can attach it to a single truck or quick-couple it in a fleet of trucks. The driving wheel rides up and down freely to compensate automatically for floor irregularities. The Powr-Wheel has an automatic self-adjusting brake system with deadman brake. No change of running gear is necessary for installation of the unit.

Vanguard Engineering Co. Circle 191 on Reader Service Card

Packaging Machine Has Many Uses

The Pak-Rapid high speed continuous motion vertical packaging machine can be used in a wide range of different packaging applications. It can be used for feeding liquids, gases, powders, granu-





LORAIN Helps Galion Roll on Schedule!

LORAIN SP-107 Crane handles raw materials and finished assemblies . . . saves time and money

Galion Iron Works, at their Bucyrus, Ohio, plant, stepped up from a small hoisting crane to a real work horse when they put a 7-ton Lorain SP-107 Self-Propelled, rubber-tire crane to work. This highly maneuverable, mobile crane sees them through every material handling job. At right, it is shown loading 72" x 130" x ½" steel plate onto trailers heading for production lines. Larger 61" x 120" x 3" plate (weight 4 tons each), 9,000 lb. bundles of 6" steel tubing and fabricated frames, rollers and other parts are other regular loading-in, loading-out and stockpiling jobs for the SP-107.

They say of their SP-107: "We couldn't get into some of the tight spots in our yard with any other crane of comparable capacity. We think it is fine."

The SP-107 is Lorain's latest answer to lower-cost material handling. It features powerful 4-wheel drive, plus optional 4-wheel steering . . . a spring-mounted oscillating front axle for positive traction on rough ground . . . a lighter, yet stronger, square-tubular-chord boom (same as on the bigger Lorains) for bigger pay loads, longer reaches . . . easy-acting hydraulic clutch controls . . . and a "square" wheel base design that gives full-rated lifting capacities throughout 360° without out-

riggers. For "bonus" work on factory maintenance and construction, the SP-107 converts to dragline, clamshell, shovel or hoe.

Get the new Lorain SP-107 story from your Thew-Lorain Distributor. Galion did . . . and to their advantage!



In this photo, 72" x 130" x 1/2" steel plate — 4 at a time—are loaded onto production line trailers. At top — rear rollers for the 8-ton Galion Roller are stockpiled.

THE THEW SHOVEL CO., LORAIN, OHIO, U.S.A.



Circle No. 239 on Reader Service Card for more information

Handle Anything...

GAGE

FROM BAGGAGE

(photograph courtesy Pan American World Airways)

TO EGGS





TO EYE WASH

Olson Conveyor installations are at work in many industries, moving and handling the widest possible variety of material quickly, quietly and economically. Olson engineers have been called on to solve thousands of handling problems—moving everything from eggs, to eye wash, to baggage and on up to heavy assemblies through production lines and in and out of storage. If you have a material moving or transfer problem—chances are a conveyor may be the answer. To find out, come to Olson, the Conveyor specialists first.

OLSON CONVEYORS

SAMUEL OLSON MES. CO., INC. 2426 BLOOMINGDALE AVE. CHICAGO 47, ILLINOIS Offices in Principal Cities

Circle No. 110 on Reader Service Card for more information

NEW EQUIPMENT SECTION

lars, and solids. Any size package is possible. The machine fabricates packages from one roll of heat-sealable film if the printed message is the same on both sides, or from two rolls if front and back are dissimilar. Variable speeds. Completely portable.

Pak-Rapid Inc.
Circle 192 on Reader Service Card

Compact Fork Lift Truck

The Tubarlift Champion Stroller, Model 777, is a powered fork lift truck that can be operated



in 60-inch aisles. It lifts loads up to 1,000 pounds to a height of 60 inches. The unit is equipped with dual lifting chains and a 12-volt electrical system with battery charger.

Uhrden, Inc.

Circle 193 on Reader Service Card

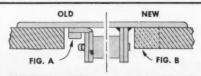
Packs Wide Range of Container Sizes

The A-B-C Semi-Automatic Carton Packer is adjustable to a wide range of rectangular cartons and can sizes. It can also work efficiently with a variety of packing arrangements and case sizes. The operator opens a case and places



ened bushed joints and deep sprocket engagement assure smooth chain op-eration under maximum power, load and speed

Dura-Wold is easily de-tachable at any joint. Dura-Weld links may be attached to existing roller chain of the same general type and may be used on the same rails.



DIAMOND Dura-Weld requires none of the attachments or rivets shown in Figure A. This permits a simplified design that is easier to keep clean, and gives up to 35% more rail load-bearing area. Permits use of wider supporting rails for greater distribution of load, Figure B.

Copyright 1958 Diamond Chain Co., U.S.A.

Conveyor Chain. Write for full details, today!

Diamond Dura-Weld Conveyor Chain is now available from your Diamond Distributor's

Write for FREE Folder!

Gives complete listing of DIAMOND Distributors and full description, specifications and prices of DIAMOND Dura-Weld Top Plate Conveyor Chain.



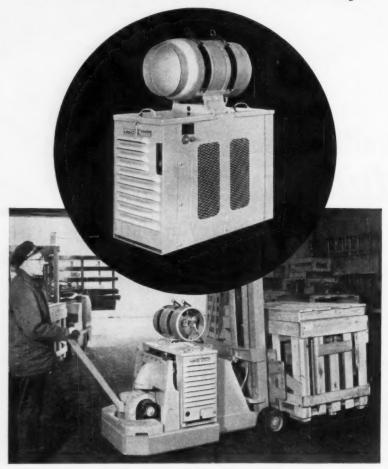
DIAMOND CHAIN COMPANY, INC.

A Subsidiary of American Steel Foundries 402 KENTUCKY AVENUE, INDIANAPOLIS 7, INDIANA Offices and Distributors in All Principal Cities

Circle No. 41 on Reader Service Card for more information

LPG-ELECTRIC

The Versatile READY-POWER way!



New! Bantam Model W12 for Electric Powerized Hand Trucks

Ready-Power combines full electric power with no fatigue AND the economy and low maintenance of LP-gas in one compact new power unit. Installation is quick and easy on any make of motorized electric hand truck with adequate sized power compartment. Bantam model W12 accommodates an interchangeable 20-pound fuel cylinder, includes a quick-disconnect fuel line coupling for safety, has removable end, side and cover plates for easy accessibility. LP-gas components are listed by Underwriters' Laboratories and comply with Factory Mutual recommendations. It's easy to convert your present trucks to this modern, full-production power. Specify "Ready-Power" when ordering new trucks. Write for information.

READY-POWER

The READY-POWER Co., 3838 GRAND RIVER AVE., DETROIT 8, MICH.

Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electic Power Units for Industrial Trucks Circle No. 118 on Reader Service Card for more information

NEW EQUIPMENT SECTION

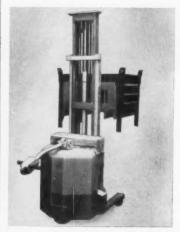


it on the horn. The machine does the rest. Cartons are received in single or multiple lanes, and collected into the right pattern. The unit can be made completely automatic by connecting to the A-B-C Automatic Case Opener.

A-B-C Packaging Machine Corp.
Circle 194 on Reader Service Card

Walkie Truck

This powered walkie lift truck has over 3,000 pounds carrying capacity. It is powered by a 1.97



hp electric motor wound in series, with overload capacity. The truck has 3 forward and reverse speeds; drive control is built into the head of the control rod. Pressure on a control button actuates the lift; retraction is by a hand lever.

Eastern Lift Truck Import Corp. Circle 195 on Reader Service Card

Combines Straddle Truck and Crane

The Strad-Krane is a combination of straddle truck and crane. Circle No. 41 on Reader Service Card for more information

Motorola 2-way radio users

INCREASE THE PRODUCTIVITY

of industrial vehicles 34%*

*Operating records of 45 typical companies prove that 2-way radio increases productive operating hours per day of each vehicle from 5.3 to7.1—a gain of nearly 2 HOURS A DAY!

One of the men surveyed put it this way: "Without radio, we would require many more vehicles and men to carry on our present operations."

In plants of all sizes, Motorola 2-way radio enables drivers and machines to increase their productivity. Radio links materials handling vehicles both inside and outside the plant with one central dispatcher . . . helping move *more* materials *faster*, and getting them where they're needed *on time*.

No matter what vehicles your business uses—a fork lift truck, a supervisory car, or a 10 ton truck— you, too, can profit from Motorola 2-way radio. It's simple to obtain your Motorola mobile radio system; all details are handled for you. Motorola's complete 2-way radio "package"—systems engineering, financing, installation and maintenance—assures you of the finest communications system, designed to fit your needs. Get the proof—write today for your Motorola case history portfolio.



VAY RADIO



MOTOROL

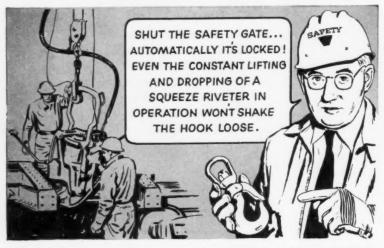
Actorola Communications & Flectronics, Inc., A Sulty days a Motorola Inc., 4501 Augusta Rivel, Chicago 51 Illinois

Circle No. 101 on Reader Service Card



OUR MEN AND MATERIALS ARE PROTECTED FROM THIS. WE'VE REPLACED ALL OF OUR OLD STYLE HOOKS WITH







DON'T USE THAT HOOK,

Corporation, Plant 1, East Chicago, Indiana

NO DANGER OF WEAKENED HOOKS GOING UNNOTICED, EITHER. THE GATE SWINGS FREE, WARNING MEN. IF HOOK IS SPRUNG AS LITTLE AS 1/8".

Pushbutton lock
With gate open hook's throat is 100% clear
Available in sizes 1 to 16A for all type
hoists, tuggers and come-alongs. Write
for safety hook data sheet.
E. D. Bullard Co., 2680 Bridgeway,



Sausalito, California
Circle No. 27 on Reader Service Card for more information

NEW EQUIPMENT SECTION



The load is suspended from the hook under the frame. The hook can travel on the crane carriage from one end of the machine to the other transversely; it can also travel up and down. The Strad-Krane facilitates pipe-laying and can perform many other tasks in building and construction.

The Silent Hoist & Crane Co.

Circle 196 on Reader Service Card

No Punctures with Laminated Tires

Punctures, sidewall cuts, and blowouts are eliminated with this laminated tire. Manufacturer says

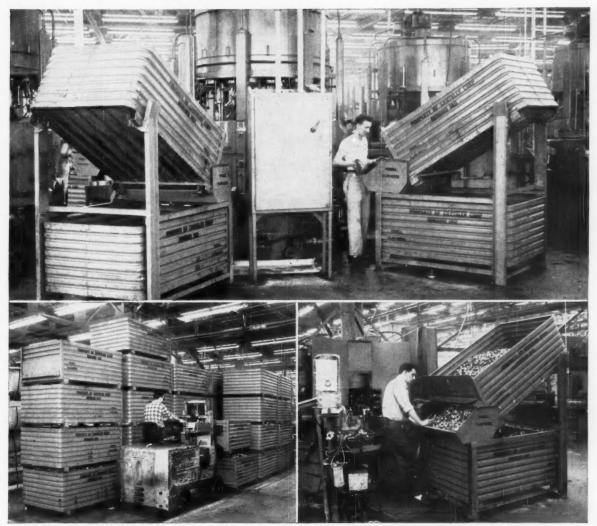


that a heavy duty chain construction makes this tire the toughest and tightest laminated on the market. The tire will fit split wheels and flat base rims or wheels.

Mitchell Industrial Tire Co., Inc.
Circle 197 on Reader Service Card

Protective Papers for All Needs

The Seekure line of reinforced



Photos through courtesy of Chrysler Corporation.

Preconceived Mass Handling is possible when a manufacturer designs and builds a plant from the ground up. That's what the Chrysler Corporation did at Kokomo, Indiana. The entire plant was constructed to meet the requirements of a specific operation in the most modern and efficient manner possible. They selected the Powell Flowmatic* materials handling system . . . by far the most economical and fastest operating mass handling equipment available today. Literature upon request.





POWELL flow-mation*

SYSTEMS-

The Powell Pressed Steel Co.

Hubbard, Ohio

Circle No. 113 on Reader Service Card for more information

NEW EQUIPMENT SECTION

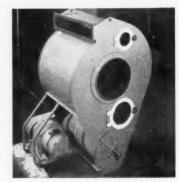
waterproof papers is now available for heavy-duty industrial packaging, supplementing the Fibreen line of asphalt laminated papers. Seekure papers use an exclusive blended latex adhesive combined with multiple layers of kraft papers and reinforcing fibers. They assure a clean, non-staining package, increased flexibility regardless of temperature, and a smooth, waterproof surface. Many new

combinations are available including flat and creped kraft, metallic, plastic, and specially treated papers. They come in standard roll sizes, or in sheets of any special size for individual needs. Custom color printing is also available.

American Sisalkraft Corp. Circle 198 on Reader Service Card

For Pneumatic Conveying

This tangential separator has



been redesigned to adapt it to the pneumatic conveying of wood particles. Air and transported material enter on a tangent at the top and travel in a vertical circular path. The material follows this path until, assisted by gravity, it is trapped in the rotating air lock which discharges it to a bin or other apparatus.

The Cardwell Machine Co.
Circle 199 on Reader Service Card

Features Tubeless Receiver

A hand-carried, two-way radio with a portable transmitter-receiver is on the market. Manu-



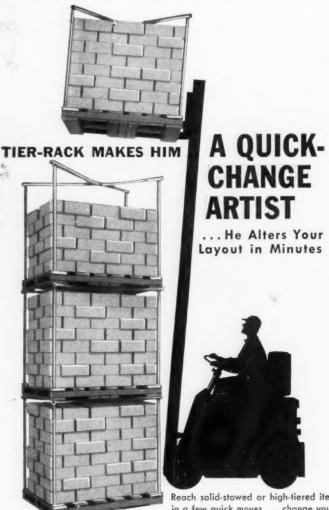
facturer claims this is the first tubeless receiver for use in VHF mobile communications services in business and industry. The portable receiver is completely transistorized; sensitivity of the equipment will be valuable in areas where communications reception is poor.

General Electric, Communications Products Department

Circle 200 on Reader Service Card

Speeds Truck Loading

This magnesium ramp is a simplified way to speed up truck



Reach solid-stowed or high-tiered items in a few quick moves . . . change your storage setup in a hurry . . . when you use portable Tier-Rack pallet stacking frames.

Put idle aisles and empty air space to

Put idle aisles and empty air space to work, too...gain up to 50% more storage room in your present floor area.

Send for booklet TR-8.

TIER-RACK CORPORATION

122 N. 7TH ST., ST. LOUIS 1, MO.

Circle No. 131 on Reader Service Card for more information

PALLET STACKING FRAMES



loading and unloading. The ramp will accommodate trucks that are either higher or lower than the dock level and has a "ramp-stop" to hold the ramp securely in position. The ramp is made of lightweight magnesium safety tread plate with all-welded construction. A unit 42 inches wide and 36 inches long weighs only 47 pounds.

Penco Engineering Co.
Ciircle 201 on Reader Service Card

Press-On Wheel Added to Line

A new series of wheels has been added to the Disogrin line: the press-on type Disowheel. The tire



of this wheel incorporates the polyurethane elastomer, Disogrin. The press-on's load carrying capacity has been rated at 2½ to 4 times the capacity of rubber, the manufacturer says.

Disogrin Industries, Inc. Circle 202 on Reader Service Card

One Man Handles Barrel Lift

With this Model No. 80 barrel lift, one man can hook on a barrel weighing up to 1,000 pounds. He can then lift the barrel easily and move it on the 8-inch rubber-tire



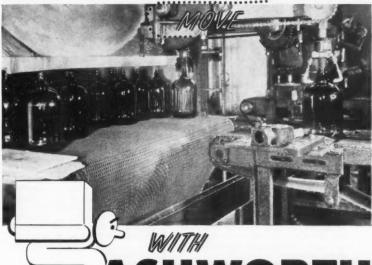
wheels and the 4-inch ball-bearing swivel caster. Thus rotating, tilting and draining a fully loaded barrel is a one-man operation.

Morse Manufacturing Co.
Circle 203 on Reader Service Card

Swiftest New Method in Sight

The electric Clip-Top Packer, Model T-E, is claimed to be the swiftest new method for fastening filled cartons, turning out 425 clips a minute at less than 1/3 cent each. It uses king-size clips, and has an automatic trip. Simply







Woven from any metal capable of being drawn into wire form, Ashworth belts afford a conveying medium in temperatures from sub-zero to 2100°. Whatever your process—Ashworth belts can help you effect economies and . . . keep your product on the move.

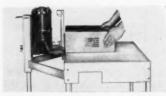
Illustrated literature available.

ASHWORTH BROS., INC., WINCHESTER, VIRGINIA

SALES ENGINEERS: Atlanta - Baltimore - Boston - Buffalo - Charlotte, N. C. - Chicago - Cleveland Dallas - Detroit - Fall River, Mass. - Greenville, S. C. - Louisville - New York - Philadelphia Pittsburgh - Rochester - St. Louis - St. Paul - Tampa - Canadian Rep., Peckover's Ltd., Toronto - Montreal

Circle No. 19 on Reader Service Card for more information

NEW EQUIPMENT SECTION



plug this machine into any ordinary AC outlet, and it's ready to run. It closes containers of various thicknesses, A, B, or C flute. and double walled board.

Container Stapling Corp. Circle 204 on Reader Service Card

Push-Up, Pull-Up **Hydraulic Lift**

This lift can either raise a load that is on the platform or pull a load up from the floor. Pulling is accomplished by two steel rods



that are withdrawn from within the table to pull up loads that are impossible to get under with the platform. Lifting is done by a manually operated pump. The lifting rods are located on a 20inch load center and can be pushed back into the table when not in use.

Crown Controls Co., Inc. Circle 205 on Reader Service Card

High Speed Use for Bucket

This plastic bucket is formed in one piece, without interior seams. Manufacturer says it runs at full



capacity because it resists caking. It is designed for high speed use, and will also perform at lower belt speeds. The Dura-Buket is static free and spark-proof.

Dura-Buket Division. National Oats Co.

Circle 206 on Reader Service Card

5.000 Pound Plate Handler

This automatic plate handler now offers a 5,000 pound capacity. It also features a rotatable lift beam which permits direct feeding for either end or edge shearing or forming. The handler is designed specifically for feeding high speed shearing or press brake operations. Completely auto-



Inside and outside, Wayne power sweeping speed, convenience and economy are cou-pled now to the new Models 705 and 706 to give you more for your sweeping dollars than ever before! Look at these important advantages.

No Dust Bag to Empty-Exclusive Wayne Filter-Vac Dust Control deposits dust directly into the hopper—a feature that obsoletes all other power sweepers!

Greatest Effective Capacity — 15 cubic feet of effective hopper capacity means less time dumping - more time sweeping!

Quick Broom Changes-Fast, easy broom changes equip Waynes in minutes for any sweeping job-let you match the broom to save sweeping time, get the job done right!

Models 705 and 706-

bigger, stronger, more powerful than ever-retain all the advanced features that make Waynes today's best sweeper value ... features engineered for years of low-cost sweeping. Get all the facts before you today - write for descriptive literature.

New Models 705 and 706 include: Welded Steel Body • Greater Horse-power • Quick Maneuverability • Vacuum Cleaning Attachment • Automatic Dumping • Maximum Visibility • Automotive Type Controls • Gas, L.P. **Gas or Electric Power**



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Export Agent: Henry R. Jahn & Son, Inc., New York Canada: Wayne-Crothers, Ltd., Scarborough, Toronto Circle No. 149 on Reader Service Card for more information



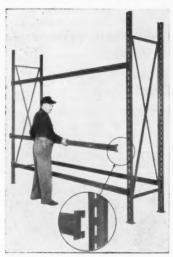
matic, the handler will pick up plate from either of two stockpiles and deliver it to the machine feed at the touch of a button. Travel speed is 240 fpm.

Noble Co.

Circle 207 on Reader Service Card

Racks Need No Fasteners

This self-standing rack consists of two elements: pre-assembled structural steel end frame and



horizontal runners. Manufacturer says it can be erected in a fraction of the time required for ordinary racks. These "Fas-Lok" racks can be assembled into unlimited combinations of height, length, and shelf openings.

Chicago Tramrail Corp.
Ciricle 208 on Reader Service Card

Box Folds to 1/5 Size

A collapsible, re-usable steel "transporter" box is designed to fold into 1/5 its original size. The unit is intended for one-way shipment of material, and is said to be specially suited for foreign cargo shipments. One reason for this is because the box's construction

gives protection from rough handling and pilferage. For security in transit the box can be supplied



with heavy-duty locking arrangements.

Republic Steel Corp., Berger Div. Circle 209 on Reader Service Card

Car Unloader for Bulk

This car unloader can unload a bulk flour railroad car in $2\frac{1}{2}$ to 3 hours. The loader is designed for quick, air-tight attachment to GATX Airslide cars. In operation, it conveys flour from the car by air at the rate of 600 to 1,000 pounds a minute, and pro-

How A-F "ENGINEERING FOR AUTOMATION"



produces SUPERIOR conveying systems

The planning and designing of conveying systems and ancillary equipment for automated applications requires the finest engineering talents.

Because A-F *pioneered* automated conveying systems . . . and has automated plants throughout the world . . . you can be sure of superior performance from A-F *Engineered* Conveying Systems in semi-automated and other types of plantwide co-ordinated conveying systems.

A-F engineers and manufactures Conveying Systems of all types ... Gravity and Live Roller, Belt, Overhead Trolley, Apron, Chain, Magnetic Belt, Scraper, Vertical, Truck Towing, etc. . . . as well as control centers, positioning devices, automatic take-up and discharge units and other equipment for moving parts and products.

An A-F Engineered Conveying System can effect substantial economies in your plant. What better time than now to reduce operating and maintenance costs? Write us—without obligation—today!

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The Superiority of
A-F Conveyor Engineering



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Also Pre-Engineered Conveyors— Wheel, Trolley, Roller, Belt Metal Cleaning and Processing Machines

THE ALVEY-FERGUSON CO., 436 Disney St., CINCINNATI 9, OHIO and Azusa, Cal.
Circle No. 8 on Reader Service Card for more information

NEW EQUIPMENT SECTION



vides air to actuate the airslides of the car. A counterweight permits the unloader to balance on its two center wheels, making it maneuverable for clearing rails and spotting under the cars.

Food Machinery Div., Baker Perkins, Inc. Circle 210 on Reader Service Card

Sound Waves Weld Aluminum Foil

Now you can have sealed aluminum foil packages that are completely airtight and resistant to all penetration but punctures and tears. Aluminum foil welding is now available to the packaging in-

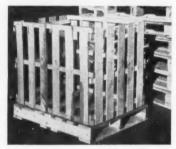


dustry. Furthermore, the welding process uses no heat—it's accomplished entirely by sound waves. The equipment consists simply of hand welding "iron" and a 100-watt ultrasonic generator. It can be used on foil as thin as .0003 inches. It produces a continuous weld stronger than the two pieces being welded. The equipment can be designed for automatic operation as part of your packaging line. It can also be operated manually.

Gulton Industries, Inc.
Circle 211 on Reader Service Card

Wooden Folding Container

This wooden folding container is for handling loose items. It is a one-piece wrap-around unit



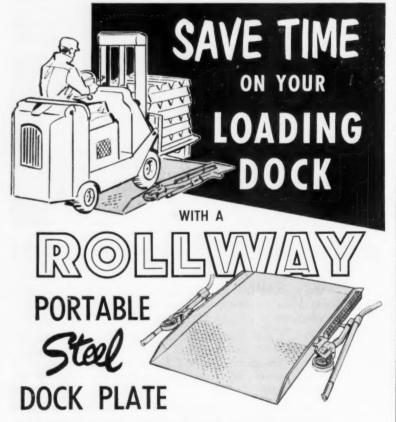
which is made to fit any size pallet. It can be clamped or nailed onto the pallet for permanent use, or it can be set over the pallet for temporary use and then be collapsed for storage. All four sides are hinged for collapsing.

Atlas Pallet & Lumber Sales, Inc.

Circle 212 on Reader Service Card

Case Stacker Priced Low

The manufacturer of the Ezee-Up stacker says this unit's cost



THAT ONE MAN CAN MOVE WITH EASE!

- Constructed from heavy, rugged steel that can really take it!
- Designed so one man can move it in seconds!
- Wheels and handles fold completely out of the way when in use!
- Safety engineered to eliminate many costly accidents!

CALL OR WRITE TODAY FOR MORE INFORMATION!

WOODFORD MANUFACTURING COMPANY

1629 Delaware . . . Des Moines, Iowa

Circle No. 141 on Reader Service Card for more information



is less than one-half that of ordinary case stackers. The Eeze-Up stacker stacks wood, metal, or wire cases from 3 to 7 high, or allows cases to pass through the machine singly. It is adjustable to all case sizes.

Lathrop-Paulson Co. Circle 213 on Reader Service Card

Tubes for Industrial Radio

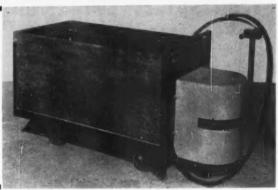
Eight industrial tubes for twoway mobile radio systems operating from 12-volt storage batteries Circle No. 158 on Reader Service Card for more information

VANGUARD ENGINEERING COMPANY'S

"PACKAGE OF POWER" POWR-WHEEL!

... For Quick Economical **Power Conversion** of Hand Propelled Equipment!

- · Fluid Drive
- Silk Smooth Starts
- · Full Articulation
- Constant Traction
- Self Adjusting Braking System
- Dead Man Brake
- Uniform Steering Ease



Quickly and easily attached to any piece of equipment. No change in existing running gear required for installation.

Several Models From Which To Choose:

POWR-WHEEL, MODEL 500: For permanent installation on any unit having its own battery, 8000.# G.V.W. capacity

POWR-WHEEL, MODEL 50: For permanent or quick coupled installation to one truck or an entire fleet not having own batteries. Has two retractable wheels. 8000.# G.V.W. capacity

POWR-WHEEL, MODEL 550: Same as Model 500. 3000.# G.V.W. capacity

POWR-WHEEL, MODEL 560: Same as Model 520. 3000.# G.V.W. capacity

*Available for OEM applications.

ANGUARD ENGINEERING COMPANY 1908 E. 66th ST. CLEVELAND 3. O.



6906 KINGSLEY AVE. DEARBORN, MICHIGAN Circle 18 on Reader Service Card for more information AUGUST, 1958

LIFTS and PULLS at ANY angle . . .

Move machinery, pull boiler tubes, join belts, set pipe, lift motors-for 1001 uses pick up a

 Operated by a ratchet handle requiring no more effort than an automobile jack. Objects up to 12,000 lbs. can be lifted or pulled ... vertically, horizontally or at any angle. Anyone can operate. Automatic brake holds loads at any point. Inexpensive. Sturdy. Safe. CM-Alloy flexible welded load chain.



Send for **PULLER Bulletin 146** Illustrated and with prices.

Capacities: 1/2 to 6 ton

1/4 TON

MODEL WEIGHS ONLY

13 LBS.



CHISHOLM-MOORE HOIST DIVISION

COLUMBUS McKINNON CHAIN CORPORATION TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
Kinnon Columbus Chain Limited, St. Catharines, Ontario

Circle No. 151 on Reader Service Card for more information



FRICTIONLESS OPERATION
GREATEST ACCURACY



EASY HANDLING—Light weight and Compact. Full 360° Hook Rotation permits swiveling in any direction.

MORE CONVENIENT—Manual Tare Adjustment zeros-out grabs, hooks, chains, tote boxes, etc. Minimum Headroom Loss.

EASY READING—Adjustable Gauge can be tilted up or down. Dual Range Dial provides accurate distant and close reading. Entire Dial Circumference Calibrated for precise readability.

SAFER — Five-to-one safety factor allows ample overload margin. LOWER IN COST — Averages lower in price than hook scales of comparable capacities.

1,000 to 20,000 lb. CAPACITIES.

FOR FURTHER INFORMATION WRITE TO MARTIN-DECKER CORPORATION

3431 CHERRY AVE., LONG BEACH 7, CALIF. DEPT. N-27

MARTIN- DECKER CORP

Circle 103 on Reader Service Card for more information

NEW EQUIPMENT SECTION

have been introduced. To insure dependable performance when storage batteries are charging and discharging, the heaters of these tubes are designed to withstand an intermittent heater-cycling test of 2,000 cycles minimum at high heater voltage. They will opperate over a heater voltage range of 12 to 15 volts.

Radio Corporation of America

Circle 214 on Reader Service Card for more information

New Capacity Front End Loader

The Model H-25 Payloader is a rubbertire front-end loader with a rated capacity of 2,500 pounds. Although the H-25 has more capacity and is



larger and heavier, it can be operated in and out of boxcars having 6-foot doors. Manufacturer claims it has a shorter turning radius (6 foot to the outside rear hub) than any other rubber tire tractor-shovel.

The Frank G. Hough Co.

Circle 215 on Reader Service Card for more information

Two-Way Belt Radio

The Personalfone is a 2-way transistorized belt radio for roving personnel. It has applications with guards, watchmen, maintenance men, mechanics, firemen, police. It is adjustable to any frequency in the 150 mc



band. The receiver and transmitter are in separate leather pouches. It is equipped with antenna, battery, microphone, speaker or earphone.

Radio Corporation of America, Communications Products

Circle 216 on Reader Service Card for more information

Lift Table Introduced

A line of standard unitized lift tables has been designed for the paper and associated industries. The tables are available in three sizes: 48" x 24", 52"



x 30", and 72" x 42". They will raise 2,000, 4,000, and 6,000 pounds to heights of 30, 36, and 48 inches respectively in less than 30 seconds.

Clark-Aiken Co.

Circle 217 on Reader Service Card for more information

Hydraulic Hand Lift Truck



The Barrett-Cravens Co. manufactures the Model HJ and Model HR hydraulic hand lift trucks. The Model HJ (illustrated) requires only six strokes of the handle to raise a capacity load of 2500 to the truck's full lifting

height of three inches. The Model HR has a capacity of 4000 pounds and requires ten strokes to raise a capacity load. Both trucks are available in narrow and wide types and in a wide range of platform lengths.

The Barrett-Cravens Co.

Circle 218 on Reader Service Card for more information

Heavy Duty Stretcher Is Easy to Use



Model 7C stretcher and cutter introduced by Brainard Steel is a heavy duty, drum type tool designed for 3/4 inch and 11/4 inch strapping operations. The unit has been completely redesigned, to stress ease of operation for quick, efficient steel strapping. Its light weight and simple operation reduce oper-

ator fatigue, and the new design uses less moving parts, resulting in a minimum of maintenance. Model 7C is available with or without the cutoff feature.

Brainard Steel Strapping Div.

Circle 219 on Reader Service Card for more information

Turntable Varies Capacities



By varying the number of casters used to support the section, this turntable can have capacities of 1,500, 2,500, and 3,000 pounds. From a mini-

mum height of 61/8 inches (without roller conveyor section) supports can be provided for correct operating height. Positive type stop can be pedal operated or hand controlled. The unit is ideal for transferring at right angles from main line to work or storage lines.

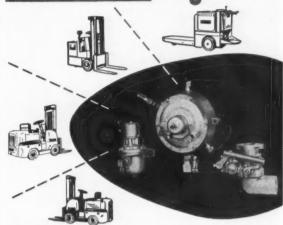
Standard Conveyor Co.

Circle 220 on Reader Service Card for more information

TV Camera Added to Line

Recently introduced was a television camera line

Lift Trucks and LP-Gas work better together!



with Century Carburetion



For Every Lift Truck (regardless of make or model) there is a Century "Power Package" designed to its requirements . . . calibrated to its engine performance curve ... balanced to its economy and horsepower requirements . . . and compactly sized for easy installation in confined space.

Century "progressive jet" carburetion, a product of Borg-Warner, employs the exclusive Century metering valve system for better fuel-air control. You get instant starting, perfect idling and full power under

any conditions.



When you convert to LP-Gas, follow the lead of the big manufacturers - specify Century LP-Gas Carburetion. Write for literature today.



Smallest unit sizes - Century units are small, light and compact - smallest in envelope size for their horsepower rating. Fewest number of parts - There are only

three major units to a Century carburetion system.



Easiest to install - Small, compact, Century systems require only tune-up adjustment. There are no bleed lines or idle lines.



CENTURY GAS EQUIPMENT, Marvel-Schobler Products Division Berg-Warner Corporation, 625 Southside Drive, Decatur, Illinois

Export Sales: Sin Par Automotive Div., Singer Products Co., 15 Moore St., New York 4, N.Y. Circle 31 on Reader Service Card for more information



Circle 44 on Reader Service Card for more information





Circle 94 on Reader Service Card for more information 120

NEW EQUIPMENT SECTION

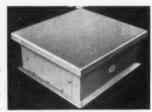
for classroom or studio use. This compact TV system is known GPL Model PD-250. It consists of a vidicon camera with 5-inch electronic viewfinder, four lens turret and either portable or rack mounted camera control unit. The 28 pound camera is equipped with front and back tally lights and intercom.

General Precision Laboratory Inc.

Circle 221 on Reader Service Card for more information

Vibrators Speed Packaging

Two vibrating packers have been introduced by Ajax Flexible Coupling Co. They have container capacities of 350 and 500 pounds. They are self-contained complete with motor driven vi-



brating unit, producing ½ to 3/16 inch strokes at 1200 cycles per minute. The vibrators make possible fast uniform settling and compacting of materials in boxes, bags, drums and other packages. They are easily installed in production and packaging lines, or in spot locations.

Circle 222 on Reader Service Card for more information

For Office and Plant Managers —

AN INVALUABLE GUIDE TO WORKMEN'S COMPENSATION DECISIONS

Non-legal language

Completely indexed

Over 490 pages

dexed

Industrial

Compensation

Decisions

\$12.50-

The first and only book of its kind, containing actual court quecisions to 565 workmen's compensation cases. More than 3000 index listings help you locate cases similar to your own. Information contained in one case could be worth thousands of dollars to your firm. Limited edition. Send for free brochure today.

BOOK DEPT. . OCCUPATIONAL HAZARDS

812 Huron Rd., Cleveland 15, Ohio

Handles 16 Yard Containers

Model CH-300M has the largest cubic capacity and payload in the Load Lugger line. It handles



16 cubic yard open or closed containers, and up to 24,000 pound payloads. The Load Lugger is a truck-mounted, two-arm hoist which picks up, carries, and dumps many types of containers. Containers hold solids, liquids, or gases. This large capacity model will benefit scrap dealers and contract haulers by providing greater payloads per trip.

Ingersoll Kalamazoo Div., Borg-Warner Corp. Circle 223 on Reader Service Card



Circle No. 148 on Reader Service Card for more information



A TRAK-RAK System saves valuable floor area by permitting vertical material storage and handling, yet provides faster, safer in-and-out of storage handling than on the floor operation. TRAK-RAK gives you better inventory and parts control, lowers handling costs, improves material delivery. Over 200 TRAK-RAK systems installed in companies like Alcoa, Carson Pirie Scott & Co., Chain Belt Co., Du Pont, Westinghouse, General Electric, etc.

Write for complete Gib Crane Catalog showing complete line



CHICAGO TRAMRAIL CORPORATION
322 S. Kostner Avenue • Chicago 23, Illinois

Circle 150 on Reader Service Card for more information AUGUST, 1958



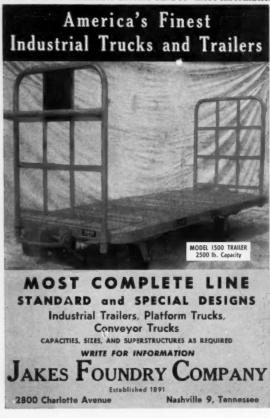
An all-purpose portable belt conveyor, work table and straightline production system, with and without side leaves. Available up to 100 ft. long in 10 ft. easily assembled sections.

PORTABLE OR STATIONARY

The perfect mechanized table for assembly, inspection and packaging operations. Available in steel or stainless steel with fixed or variable speed.

FREE!	P. O. Box 380276 Miami 38, Fla.	Dept. F-8	
SERVICE ERECT	Please send Bulletin 1P-1 on Island Unitized Conveyor Tables.		
	ADDRES\$		

Circle 76 on Reader Service Card for more information | 121





- Can be assembled quickly where space is limited . . . no need to turn end-for-end
- end-for-end

 Versa-Couplers on each end fit
 either end of other Versa-Roll sections and will connect with most
 hook and rod couplings now in use

 Widths 12", 18" and 24". Lengths
 5' and 10'. Straight and curved
 sections
- · Aluminum or enameled steel formed channels . . . aluminum or 2 plated steel wheels and rollers
- Guard rails, case stops, center leg supports, spurs, switches available



PORTABLE

Quick-Set Versa-Stands offer fast, easy Versa-Roll setups with positive vertical and lateral ad-justment. Permanent Versa-Stands available.

Versa-Veyor Division

THE BELT CORPORATION

588 Stahl Road, Orient, Ohio

Circle 153 on Reader Service Card for more information 122

NEW EQUIPMENT SECTION

Chain Identification

You can positively identify chain by make and grade because of an embossing process. They appear alternately at approximately 10" intervals along the chain opposite the weld and on only one side of the link. This permanent branding is presently available on "Inswell" Proof Coil, BBB, High Test, and Herc-Alloy chain in all sizes under 1/2".

Columbus McKinnon Chain Corp.

Circle 226 on Reader Service Card for more information

Conveyor Has Tight Curves

The introduction of 6", 9", and 12" radius horizontal curves to an overhead conveyor system has been announced. These extremely tight curves have been developed for systems where



it is advantageous to return a line on a short radius. This is desirable in ovens, drying areas, and storage Chainveyor Corp.

Circle 227 on Reader Service Card for more information

Aluminum Cranes

Overhead traveling cranes are built of aluminum



the sensible, convenient way to handle Stock STACKING **FOLDING**



OPEN BASE

1 & 2 TON CAPACITY

Write for circular and details

SPRINGPORT STEEL PRODUCTS CO. SPRINGPORT, MICHIGAN

Circle 124 on Reader Service Card for more information FLOW

by Northern Engineering Works. These cranes are all-welded construction, using aluminum throughout except for moving parts such as gears, wheels, etc. Another feature is the double bridge drive—each end of the crane is driven by an individual direct current motor. Both motors are connected in series and operate through a single full-magnetic reversing plugging control panel.

Northern Engineering Works

Circle 228 on Reader Service Card for more information

Truck Handles Cable Reels



An electric-powered walkie truck for handling cable reels of varying sizes has been developed by Lewis-Shepard Products, Inc. The truck is available in capacities to 20,000 pounds. Maximum reel

diameter than can be handled is 90 inches, the minimum 36 inches. Maximum reel width is 68 inches. No manual adjustments of the lifting hoops are required for the full range of diameters. Twin hydraulic cylinders, one attached to each lifting arm, are synchronized to lift simultaneously. For peak maneuverability, the truck will operate even with the handle in full-vertical position.

Lewis-Shepard Products, Inc.

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crane for on-the-move readings... are available with capacities of 0-250 lbs. up to 0-5,000 lbs. 360° swivel hook. 16" diameter dial.

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The ElectroLift worm-drive hoists—in capacities from ¼ to 10 tons...compact design requiring minimum head-room... superior braking power... simplicity of operation—are noted for their productive and dependable long life. Consult your local ElectroLift representative, or write for a complete catalog.



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Capacities 250 lbs. to 1 Ton **Fast Lifting Speeds**

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Pulseless, rotary air motor; no pistons, no reciprocating parts.

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NEW EQUIPMENT SECTION

Lightweight Hand Truck Maneuvers In Tight Spots

The "Nu-Litewate" truck No. 367 is being manufactured by the Lansing Company to meet the limited-space demands of supermarkets, department stores, airports, railroads, bus terminals, and office quarters. Available in various sizes, the "Nu-



Litewate" can carry 500 pounds over 5" solid rubber load wheels and 4" casters. Lansing Co.

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Eight Ton Yard Crane

Grove Manufacturing Co. has a hydraulic yard crane which will handle loads up to eight tons. This crane, the Model 68, has its 8-ton capacity with the hook 5 feet from the front bumper, a 6-ton capacity at 8 feet, and a 31/2 ton capacity at 16 feet.

Grove Mfg. Co.

Circle No. 231 on Reader Service Card



124



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FLOW

Paper Strip Under Strapping Protects the Load

A strapping machine attachment feeds a strip of low-cost chipboard under the strapping,



protecting the load by acting as a cushion between strap and load. The paper feed operation is automatically timed to coincide with strap feed. This device not only prevents straps from marring surfaces, but also guards against loosening tension caused by straps digging in at the corners. It is designed for use with the Signode

Model M-2 Power Strapping Machine.

Signode Steel Strapping Co.
Circle 232 on Reader Service Card

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This portable, lightweight truck ramp can be easily positioned by one man to transfer loads between



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Magline Inc.

Platform Truck Has Torque Converter

This 4,000 pound capacity platform truck has hydraulic torque converter drive transmission. The



truck is powered by an 18 hp, 2 cylinder, air-cooled engine. It features automotive type steering, dual front wheels, heavy industrial drive wheels, and a spin-proof differential. The F40 is engigineered to meet the requirements of a heavy duty platform type burden carrier.

The Prime-Mover Co.
Circle 234 on Reader Service Card

Compound Toughens Belt

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tion 820 is a recently developed coveyor belt. It combines a heavyduty hard silver duck fabric with a special compound known as "Impregnation 820." This compound resists oils, fats, and similar substances. It also lubricates and toughens the fabric, and increases its flexibility.

Imperial Belting Co. Circle 235 on Reader Service Card

Industrial Tire Development

Durothane is the trade name for a new industrial tire in the poly-



urethane field. This elastomer is cast directly to the wheel rim in a full range of standard sizes for lift trucks, pallet trucks, factory trucks and casters. The Durothane tire is said to reduce the drawbar pull of a fully loaded truck · by as much as 30 per cent. It is chemically inert and is unaffected by oil, water, grease, brine, and most industrial acids.

Divine Brothers Co. Circle 236 on Reader Service Card

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The HD hydraulic hand lift model weighs less than 250pounds. But its 48" platform is designed to speed the lifting and handling of skid loads to 2500 pounds. The truck frame has all-

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Subsidiaries: Tokheim N.Y., Leiden, Holland—GenPra, Inc., Shelbyville, Ind. Factory Branch: 475 Ninth Street, San Francisco 3, California

der of Canada, Ltd., 205 Yonge St., Toronto, Ont.

Circle 147 on Reader Service Card for more information



welded, ribbed aircraft-type construction; it is said that this gives unusual strength and stability with light weight. Its hydraulic lift pump and ram are housed as a compact single-package unit, vertically mounted to eliminate friction.

Barrett-Cravens Co.

Circle 237 on Reader Service Card

Electronics Does the Counting

The Triumph electronic counter is designed to count tablets, capsules, buttons, beads, and similar objects. It removes dust and chips automatically, and will not damage even the most delicate parts. Three models are available. Model TB2 is a single head counter with speeds up to 1500 a minute. The TB3 has two heads and counts up to 3000 a minute.

The Burnet Co.

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What makes you think you're unpopular with the grease room boys?



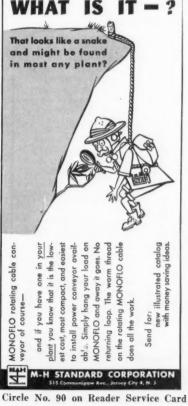
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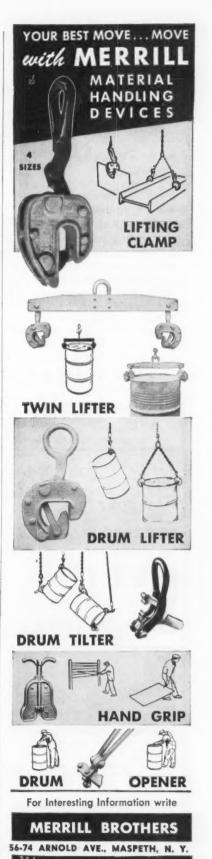
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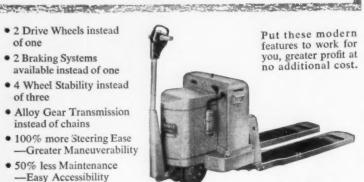


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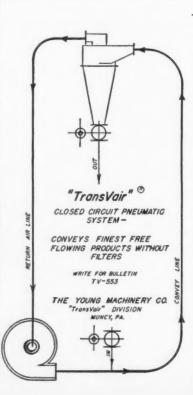




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Circle No. 34 on Reader Service Card Circle No. 143 on Reader Service Card

EXPORT PACKAGING . . .

Continued from page 75

es with a bursting strength of less than 275 pounds per square inch. And never overload them.

When the goods permit, let the load support the wails of the container. Otherwise, the box must be able to resist compression enough so that it won't collapse when it's on the bottom of a pile.

Nailed wooden boxes. Widely used for medium weight goods. they can support heavily stacked loads on top of them without collapsing. They also give excellent protection against punctures. There are standard ways to choose the right lumber, shape and style of box, nails, and nailing patterns.3 DO NOT USE SECOND HAND BOXES. They are usually too weak to reuse.

Wooden crates. These are usually best for heavy, bulky items. Crates may be open or fully sheathed (enclosed). Make sure the item is securely fastened to the crate base. Frame members must be heavy enough to withstand the pinching effect of slings. Protect against improper handling as best you can. Mark the center of gravity, and sling and grab hook positions. Remember, large crates are usually stowed in lower holds, and your crate may be on the bottom. Be sure it can support this type of burden without crushing the goods inside.

Wirebound boxes and crates. Open wirebounds are lighter than wooden boxes or crates, hence cheaper to ship. However, don't use them for merchandise that would be affected if the box were twisted out of

⁵ A booklet on proper applications of wooden containers for overseas ship-ments is available from the National Wooden Box Association, Barr Building, Washington 6, D. C.

For further information on any item advertised in this book, use the Reader Service Cards be-tween pages 100 and 101. shape a bit. Fully sheathed wirebounds have about the same uses as wooden crates, but they hold up better under distortions. Some shippers have been using them lately with polyethylene liners to ship powdered bulk materials. Be careful not to fatigue the wire loops by opening and closing too many times. Bend them once and let them be. Consult your supplier for specifications of wirebounds for export.

Barrels, casks, or kegs. While the wooden barrel has been a workhorse of overseas trade, don't use just any barrel without investigating first. The wrong barrel can do you more harm than good. Tight barrels (for liquids) should be stored on their sides, bung up. Slack (dry) barrels should always be stored on ends. Make sure they are well made, and amply reinforced. Make sure barrel wood and liner material will not contaminate the contents.

Steel drums. New steel drums are generally excellent for export. Second-hand drums may give trouble, unless thoroughly reconditioned. Make sure seals don't leak. See that the locking levers and sealing rings on open-end drums seal them perfectly. Solder or weld friction covers at three or more points. Do not use lightweight drums, except where contents become semisolid after filling. For dangerous materials, be sure to follow ICC or Coast Guard regulations.

Fibre drums. More and more overseas shippers are using them successfully. However, here are several don'ts: Don't use them where there's a chance they will be stored out in the open, unless you make special provisions for waterproofing. Don't fill them to capacity; an air pocket at top will absorb shock, preventing rupture or loosening heads. Don't use too large a drum; keep size compatible with weight of contents. (use smaller drums for dense materials, to keep them from being too heavy when filled). Don't roll or store them on their sides; handle them with mechanical equipment or roll them on their chimes.

Bales. A well made bale will

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Cyclone Metal Conveyor Belt

To eliminate expensive hand operations and speed up drying time, this leading electrical manufacturer installed a Cyclone Flex-Grid Conveyor Belt to carry his resistors through waxing and drying operations. Drying time was cut from a full day to minutes, and costs were held to a competitive level.

More details on this time- and moneysaving story are reported in the Cyclone booklet, "How 35 Manufacturers Saved with USS Cyclone Processing Belts." Send coupon for your free copy.

Five Basic Belt Types—Cyclone Fence makes the greatest variety of belts in the industry—spiral woven chain drive, spiral woven friction drive, flat wire friction drive, flat wire sprocket drive and flex-grid. They are available in a variety of Mountaturers
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metals, alloys and finishes. They are strong, sturdy, highly resistant to the effects of chemicals, oils, water or temperatures. Their open-mesh construction makes them readily cleaned and sanitary—permits good circulation of air or heat.

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WRITE BELOW

NAME ADDRESS

CITY

STATE

Circle No. 35 on Reader Service Card for more information

Continued

outturn well in most export trades. But bear in mind it's easy to pilfer from bales, and they are apt to be damaged by hooks and water. Wrap them in a waterproof wrap, or some other protective material. Provide ears on corners of small bales so they can be handles without hooks. Bales weighing over 300 pounds are likely to be handled with hooks. Use at least

four tension bands around any bale to hold it together.

Multi-wall bags. These flexible bags are made of several layers of kraft or similar paper. They often have inner laminations of



foil or waterproof materials. They are widely growing in use for domestic shipments of powders and granular materials. But their use for export shipment is still limited.



PROTECT AGAINST MOISTURE. Dampness is one of the worst enemies of overseas shipments. Cargoes are often loaded in the rain, or may stand in the rain while waiting on the dock to be loaded. But that's not the only moisture your product will meet. Ships' holds are notoriously damp. An average hold of 100,000 cubic feet may contain up to 155 pounds of water at 80 degrees F. and 100 percent relative humidity. When the temperature falls even a little, beads of sweat form on everything. Or, if the temperature goes up, a steamy vapor forms, and penetrates everywhere. This moisture not only causes containers to rot, but quietly and insidiously sneaks into healthy containers and ruins the product inside.

There are many ways to combat moisture. The best all involve sealing the product completely from the air in one way or an-

Rust inhibitors. These are usually special chemicals applied directly to the metal surfaces. Many of them dry to form a tough protective coating that can be srtipped off. Others have to be removed with special solvents. Be sure to clean the surface thoroughly before putting on a rust inhibitor. Otherwise your goods may corrode under the compound. On such shipments as bundles of sheet steel or rods, ordinary oil or grease may be an effective rust inhibitor

Barrier materials. A good barrier material is one of the most effective weapons against moisture, for containers of all kinds. They are usually made of kraft or similar paper, impregnated with waterproofing chemicals, or laminated with foil, to seal out damp air. They must be completely waterproof-not just water resistant-and they should be sealed with waterproof tape. Many of these papers are creped (crin-



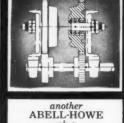
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Combine positive wheel mounting with immediate removability. To remove aske, simply
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and pull it out. Wheels, too,
are as easily removed with
no dismontling of truck frame.
"QUICKLOCK" is exclusive with
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kled), so they can fit around sharp edges without puncturing. CAUTION: Some barrier materials may bleed at high temperatures, and stain the contents. Unless you're sure of your materials, protect your goods with an inner wrap of heavy kraft.

Desiccants. Essentially dehydrating agents, these chemicals absorb the moisture from the air, so that air reaching the product stays dry. They act like sponges. And, like sponges, they can hold only so much water and no more. Therefore they have to be used with products that are tightly enclosed. Used inside airtight containers or with barrier wraps, dessiccants are very effective in fighting moisture. They are especially useful on nonmetallic products, and goods that cannot be coated directly with inhibitors. They have the advantage of leaving the product completely clean and free of foreign coatings.

Volatile corrosion inhibitors. Commonly called VCI's, these compounds actually do the same job as rust inhibitors-but with refinements. They give off a vapor that forms a microscopic coating on the surface to be protected. This coating is colorless, odorless, and tasteless, and too thin to be measured. But it forms an invisible guard against rust. The VCI chemical may be impregnated into a barrier wrap, or it may be used inside the package in crystalline form. Either way, it should be used only in airtight enclosures.

One other tip about moisture protection: Many people assume that corrugated containers cannot stand up to moisture, and therefore are not suited for export. That is not true. There are several kinds of waterproof corrugated boxes that are being used for overseas shipments with excellent results. However, if you use them, be sure to use waterproof adhesives, and seal all seams with water resistant tape.

VSE PROPER INTERIOR PACKAGING. If you put a number of fragile articles in the same container, you must protect them from each other. Use dividers or cushioning material,

or both. Package heavier items one to a box, and brace them so they can't hit the walls of the container. In the past, this could only be done well with wooden containers, but recently corrugated manufacturers have come up with ways to brace effectively with corrugated materials.

Cushioning requirements are about the same as for domestic shipments, except that your package is likely to encounter more extreme temperatures than it would at home. Make sure your cushioning will hold up under extreme heat, cold, and dampness.



GUARD AGAINST PIL-FERAGE. Theft and pilferage are common in every port in the world. Every year they cost American exporters a fortune —both in dollars and prestige. There are many kinds of pilfer-



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■ The new Bond 51-A Series Pressed Steel Rigid Truck Casters have exceptional strength and rigidity for maximum dependability-yet cost

less to buy, less to run.

Formed from one piece of heavy gauge steel, these durable 51-A's have a deeply embossed base and double formed ribs on the legs. A steel sleeve fits over the axle (except for the 2" size) and is held firmly between the fork members for increased strength and to prevent wear on the axle.

You will want these sturdy, lower cost, Bond 51-A Series casters—available in 2, 2½, 3, 4, 5 and 6-inch diameter wheels, capacities up to 650 pounds each caster.

Companion Pressed Steel Swivel Casters ...



Write, wire or phone for details on the full line of Bond Pressed Steel Casters or see your Bond distrib-

OUNDRY & MACHINE COMPANY

Monheim, Pennsylvania Circle No. 23 on Reader Service Card

EXPORT PACKAGING

Continued

proof containers at your disposal. Even ordinary wooden boxes can be nailed with special nails that defy opening and reclosing without detection. Remember, poor packaging is as good as an engraved invitation to a thief or to a man whose family is hungry and



DON'T BE PENNY WISE, POUND FOOL-ISH. Be economical, but don't scrimp. It doesn't pay. Foreign buyers are paying customs duty and may be going through considerable trouble to buy your product. If it's unusable when delivered, they get small comfort in learning that the American shipper has saved a dollar in packaging costs. You are the one who will be hurt most when that happens.

Summing up:

Export packaging has its problems, but they are by no means insurmountable. Foreign markets are profitable. Many companies find them necessary for survival. The right kind of packaging can help both you and your overseas customers. True for domestic packaging, this statement is even truer for export: Bad packaging is a poor risk; it can only get you in trouble.





BAGS, BULK, BARRELS, BOXES MECHANICALLY!

You can save time and money with increased safety by installing a Cesco Skip-Hoist Dumper. Lifts, upends and dumps 100 loads per hour with a lifting capacity range from 100 to 1500 lbs. Single and multi-purpose portable models in standard heights from 6 to 10 ft. Stationary models to 20 ft. Easy, safe operation from push button controls speeds up material handling and eliminates accidents.

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Model E-1900 is first choice of men who know electric platform trucks. Because more of its power is utilized to move the payload and less is wasted in moving truck weight, Model E-1900 delivers the goods at lower unit cost than other trucks of its type. And compare these additional E-1900 advantages:

- Climbs 17% grades with 2000-pound payloads.
- Low bed, 8 1/4" from floor, makes loading easier.
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Circle 80 on Reader Service Card AUGUST, 1958

WEIGHING WHILE HANDLING . . .

(Continued from page 60)

The Falcon leaves the production line on an overhead monorail and is lowered by an air hoist onto a platform. The operator then lowers the missile by pushbutton into a cradle scale mounted on a load cell which weighs it. A printer stamps the weight on a chart. Next the longitudinal and lateral C.G.'s are measured and recorded. The missile is automatically raised on a mandrel known as a thrust alignment fixture. Thrust alignment measurement is made by two special bonded wire strain gage beams attached to the mandrel. The beams detect moment, which is the weight of the missile multiplied by the thrust alignment deviation.

Weighing in Packaging

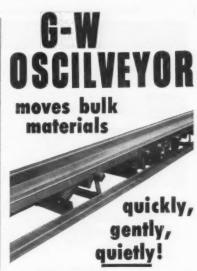
Automatic bagging and packaging uses scales for accurate controls. They're built into the system. An example is a belt feeder carrying bulk material to the scale; the scale fills bags with preweighed batches; the bags are automatically closed and sewed; conveyors carry them away.

The Federal Chemical Company of Louisville has an automatic bagging scale for fertilizer. It packs thirty 80-pound bags a minute and keeps 95 percent of the bags within five ounces of the mark. The rate and exactness are credited to the scale's two-compartment bucket design. While one compartment fills the bag with fertilizer the other compartment is being filled with fertilizer for the next bag. The scale incorporates closing equipment.

The Warner W. Price Co., Smyrna, Delaware, uses a weighing bagger to pack fertilizers. Part is packed in 125 pound burlap bags and the rest in 80 pound multiwall bags. The bagger can fill 24 bags a minute. Expandable conveyors carry the bags from the stitcher to the loading dock.

Punch Card Batching

Punch card electronic batching has about doubled production of concrete at Cleveland Builders



In the Oscilveyor three weights revolve in opposite directions to "blend" centrifugal forces and put all vibration to work. With this unique principle, you get faster forward motion of chips, shreds, pellets, and similar free-flowing material at the lowest possible cost for power and maintenance. Speed is adjustable.

Rubber-mounted rocker arms and closely calibrated coil springs make operation smooth, quiet. Rubber pad mounts need no lubrication or mainte-

Other Oscilvevor features include:

- No floor shock, because all vibration is localized and rubber-insulated. No need for heavy floor mountings!
- Reduced particle breakage, because movement is gentle.
- No spillage or leakage, because forward movement is smooth, efficient, uniform.
- Fast material flow up to 50 ft. per minute, horizontal, incline, or decline.

Oscilveyor units can be assembled to any desired length. One drive unit powers 100 ft. Available custom-built for sanitary, ultra-abrasive, or high-heat handling. Write for details.

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Circle No. 62 on Reader Service Card



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TRAIN TRAILERS Models and couplers for rider type, remote control, radio directed and tow-line operations



WEIGHING WHILE HANDLING

Continued

Supply Company. It can give you 1,500 recipes of cement, made of 6 aggregates, 3 cements, and water. Each is punched on a card. The machine reads the cards electronically, then weighs out ingredients on hopper scales for discharge to the mixer. Wet and dry ingredients can be handledyou set a dial to automatically compensate for moisture.

The Importance of Weighing While Handling

The A. E. Staley Manufacturing Company furnishes a good example of how systematic weighing should be tied in with handling to make material move in a well-controlled flow. In their 108 buildings they make 580 products, including starches, syrups, vegetable oils, chemicals and

Weight controls gets a lot of attention. They use more than 130 scales in capacities from 35 to 300.000 pounds.

A motor truck scale at the main gate weighs the big grain carriers. Grain brought in by rail is dumped into a hopper scale to be weighed, then dropped into storage bins.

Platform scales are used in production to weigh dry mixtures. Some are used for bagging feed mixes. Most packaged products, however, are packed and weighed on automatic equipment, and platform scales checkweigh the automatic packers.

Ten tank scales having 30,000 to 140,000 pound capacities, weigh oils for mixing, processing, and inventory control.

Many of Staley's products leave the plant in bulk, mostly by rail; therefore the main weighing equipment consists of four railroad track scales, which weigh cars of dry products as well as tank cars of liquids.

Photographs and information courtesy of Baldwin-Lima-Hamilton Corp., Bemis Bro. Bag Co., Consolidated Packaging Machinery Corp., W. C. Dillon & Co., Inc., Fairbanks, Morse & Co., Hi-Speed Checkweigher Co., Inc., Martin-Decker Corp., Richardson Scale Co., St. Regis Paper Co., Streeter-Amet Co., Toledo Scale Corp.

TWO-WAY RADIO . . .

(Continued from page 66)

comes in for a pickup to be made there, the dispatcher can tell the lift truck driver to move the load on his return trip."

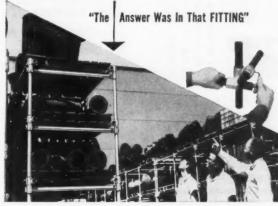
More Advantages:

Two-way radio helps in other ways. Patrick lists these examples:

- · Supervisors can route materials or equipment to the job immediately by calling the radio dis-
- Stock chasers can keep tabs on material being processed through several departments by asking the dispatcher for news.
- The planning department is kept better informed on the status of material moving in and out of the shipping and receiving departments.
- Detention charges are avoided because contact between the crane operator and the outside carriers is almost instantaneous.

Courtesy Radio Corporation of America

Circle 70 on Reader Service Card for more information



Just one more tough storage job made easy (and less expensive) with NU-RAIL SLIP-ON FITTINGS

Ask materials handling engineers why they are turning more and more to NU-RAIL Slip-On Fittings to solve their storage problems, and you get a wide variety of answers:

Some want the strength in the high-tensile aluminum alloy of which NU-RAIL Fittings are made. Some like the idea of 100% pipe salvage, plus the opportunity to build any kind of rack with stock pipe, new or used. Others like the complete elimination of expensive threading and welding, permitting any maintenance or warehouse crew to build sturdy racks with just a hex key and hacksaw. All like the adjustability of NU-RAIL, which allows them to change racks in

minutes to meet their changing requirements. Ask for Bulletin I-FL which shows how it's done.

OLLAENDER MANUFACTURING CO. 3841 Spring Grove Aven Cincinnati 23, Oh





JNIBILT® standardized conveyor units fit together like building blocks. No special skill or special tools are required to set up conveyor systems that -

SAVE TIME -- No waiting for special designs or complicated assembly.

SAVE MONEY Stock units cost less. Systems can be altered easily at low cost to meet changing handling requirements — can be set up in economical step-by-step

SAVE TROUBLE — UNIBILT components are preengineered, tried and proven in thousands of installations over years of operation.

BULLETIN TELLS HOW

Illustrates complete line of UNIBILT conveyors, contains helpful application data. Write to:

CONVEYOR SPECIALTY CO., INC. 36 Newport Ave., North Quincy 71, Mass.

SPECIALT



A complete line of package handling conveyors and conveyor systems.

Circle 240 on Reader Service Card for more information AUGUST, 1958

ALL-PURPOSE LAHER ELECTRIC TRUCKS . FOR HUNDREDS OF INDUSTRIAL USES.



Laher electric trucks and personnel carriers now (after 3 years engineering development) introduce the revolutionary new powerful non-aging SILICON DIODE CHARGER (not old style selenium plates) with automatic charging rate control (no total cutout). No more overcharged batteries; now when batteries are fully charged charger automatically reduces to low maintenance rate. Laher trucks are the economical answer to all light and medium hauling jobs of up to 2000 lbs capacity around factories, warehouses, docks, airports, train and bus terminals, refineries and hundreds of other industrial operations.
Rugged Laher electrics are available in 20 different models to fit every industrial use—they have speeds as required up to 18 mph, and can be operated from either standing or sitting positions.

All Laher electrics feature LUB-O-MATIC Drive (delayed action control-sealed units keeps dirt out and runs in oil) for smooth, fool-proof starting and operating; phenomenal AIR-VAC front spring suspension and full elliptic springs in rear for outstanding riding qualities; new foot trip emergency or parking brake... It is either on solidly or off 100%, in addition to many other exclusive features.

Laher electrics have a normal life expectancy of 20 years, yet operate for only about 10c per day—or one-fifth the operating costs of comparable gas driven equipment.

Address all inquiries to Laher Spring and Tire Corporation, 2615 Magnolia Street, Oakland, California er 300

Address all inquiries to Laher Spring and Tire Corporation, 2615 Magnolia Street, Oakland, California or 300 Madison Avenue, Memphis, Tennessee.

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is in the shape The difference of the any .5 of you with c 9 of great help The characteristics of the material 50 <u>.</u>E S will have a better bin.

While we do not sell machinery, nor are we affiliated bin is only part of the storage problem. suggesting loading and unloading systems. pe next storage bin, call 110 Elm Street, Camden, Ohio

Over a long period of years, we here at Neff and Fry have learned method of discharge. method of loading. machinery manufacturers, we can that a strong 3

- Handles Clay

Circle No. 104 on Reader Service Card

GOOD HANDLING BUILT THIS BUSINESS . . .

(Continued from page 65)

are 3 or 4 feet high and 15 feet apart. Laborers clean the bricks of mortar and stack them. Broken brick are used as fill on another part of the hill.

The straddle-dump carrier is also used to dump unsalvagable material in the fire pits.

The big advantage of the hill is its spaciousness-a complete contrast to the main storage yard where every inch of space must be used. More lumber is stored in the yard than anything else, some tiered up to 20 feet high. Also stored there are plumbing fixtures, glass, fire escapes, window sash, doors, and just about everything you can salvage from a building. Two extra benefits result from the yard handling methods. 1. Items can be moved or rearranged quickly. 2. When sold, goods can be loaded on trucks quickly by one

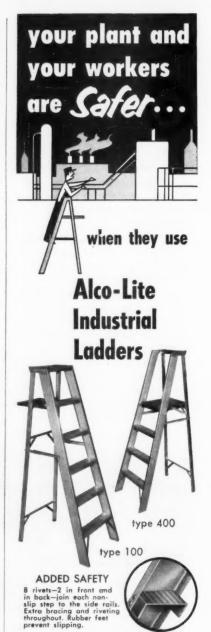
Yard handling and tiering of lumber is done by two fork trucks assigned to the yard.

Usually a fork truck and a straddle carrier work as a team. The carrier brings in the material from a job or from the hill and puts it down in the center of the yard. The fork truck picks it up and takes it to storage or to a delivery truck. Often the carriers are used to make deliveries.

Photos courtesy Clark Equipment Co.



Now then, does anyone else oppose our merger?



They're non-sparking and stronger!

These rugged ALCO-LITE Ladders are made of industrial type aluminum alloy. They are completely non-sparking and safe to use around highly inflammable materials. They can't rust, rot, splinter or burn. They're so easy to lift and handle, yet are much stronger than any wood ladder Each step is corrugated for safety and riveted to the side channels with a total of eight rivets. ALCO-LITE Ladders more than meet ASA and Metal Ladders Association standards.



FREE! STEPLADDER FOLDER

original manufacturer of aluminum ladders ALUMINUM LADDER CO.

WORTHINGTON, PA. Dept. C-8 Circle 7 on Reader Service Card FLOW

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SALESMAN: With sales management potential. Unusual opportunity for two men under 40. Experience in direct sales, in selection of distributors, and training of distributor's salesmen in product knowledge and sales techniques. This program is with a well established and progressive manufacturer offering top earnings and thorough training programs. Write to FLOW, Box 8158. (Our people know of this ad.)

FOR SALE

1½ TON ELECTROLIFT PUSH BUTTON HOIST 220/440-3-60, 20 foot lift, 25 FPM, with trolley for Cleveland Tramrail and collector for Trumbull Duct. 40 feet Cleveland Tramrail 8" Arch Beam in two 20 ft. pieces with stops and brackets for Duct. 35 feet 100 amp. 3 bar Trumbull Duct with lift out section. New Cost \$1200. FOR SALE USED \$450. New equipment money back guarantee. 1 TON AMERICAN CHAIN & CABLE FORD WHIPPET HOIST 220-3-60, 12 foot lift, 17 FPM, I-beam trolley and collector for Feedrail Duct.

32 feet 6" I-beam in two 16 foot pieces with stops and brackets for Feedrail. 30 feet 100 ampere 3 bar Feedrail. New cost \$680. FOR SALE USED \$275. New Equipment money back guarantee. Write Fairfield Equipment Co., Inc., 70 Sanford St., Fairfield, Conn.

POSITION WANTED

Specialist for Material Handling. Graduated engineer, German, 35 years old. Specialist for fork trucks. Well acquainted with material handling as well as calculation, sale and advertising. In sure position in Germany. Looking for a new field of activity in overseas. Write c/o FLOW, Box 8258.

MATERIALS HANDLING ENGINEERS

A challenging opportunity for engineer with qualified materials handling experience. Prefer chemical industry background with experience in all types of materials such as bulks, liquids, and packages. Ability to organize and follow through on assigned projects. Candidate 30 to 40 years of age. Travel involved. Salary. Give full details of education, experience, salary requirement, availability date, and references. All inquiries will be held confidential. The Glidden Company., Attention: Mr. R. G. McKay, 900 Union Commerce Building, Cleveland 14, Ohio.

Expanding headquarters material handling staff function requires ag-

gressive engineer with varied experience in warehousing and distribution activities. Background should include work in handling methods, cost analysis, equipment specification, and warehouse layout. Prefer degree in M.E. or I.E. Openings present an opportunity for engineers who desire to advance professionally in materials handling field with aggressive staff organization. Future opportunities excellent. Some travel will be required. Salary commensurate with experience. Contact: H. A. BROWN, EMPLOYMENT MANAGER. PILLSBURY MILLS, INC., MINNEAPOLIS 2, MINN.

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In New Orleans, Jackson Warehouses, Inc. A complete shipping and warehousing service. Safe, convenient and efficient. Full insurance coverage; 7c per \$100 per year. Wire or write for rates. Call WH-55395. Jackson Warehouses, Inc., 2941 Royal St., an affiliate of S. Jackson & Son, Inc. Dedicated to efficient, dependable and trustworthy service since 1902.

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Well-known manufacturer of small riding forklifts, platform and bodytype trucks, is appointing distributors in industrial material handling market. Nationally advertised line, Good sales potential with attractive profits. Territories open in many key industrial areas. Write c/o FLOW, Box 8358.



17 FORK AND PLATFORM MODELS - TO 20,000 LBS.

Through 30 years of the toughest day-in day-out work (the concrete block industry), Erickson has truly proven itself to be "The Workhorse of Lift Trucks." Ruggedly built for long life and low operating cost. Perfect balance and big pneumatic tires give the Erickson wonderful traction. 4 speeds both forward and reverse.

The Erickson is "tailor-made" for your needs. You can order any fork lift or fork style desired; beds on platform trucks as you specify. Many attachments available.



FK SERIES

4,000-7,500 lbs.



10,000-20,000





KART-ALL SERIES 4,000-10,000

PLATFORM SERIES 5,000-15,000 lbs,

Write for Erickson literature and prices.

Manufactured by ERICKSON POWER LIFT TRUCKS, INC.
215 ST. ANTHONY BLYD. N. E. MINNEAPOLIS 18, MINNESOTA





Erickson KART-ALLS will pull train of trailers plus a load of freight. With ar-lic-u-la-ted pivot it's a delight to steer and handle for airports, terminals, warehouses, etc. Custom built to your requirements.



NEW CONVEYOR BELT IDLER

Handles sticky, abrasive, dusty, or corresive materials Has only two bearings-up out of the dirt.

A 2-bearing, cable suspension idler that resists dust, abrasion, corrosion and material buildup is proving itself superior for bulk handling in many industries.

Called the Limberoller, it has already given 21 times the service life of replaced steel idlers in handling abrasive foundry sands, coal, petroleum coke, potash, copper ores, copper mill tailings, iron ore, wet concrete, triple super phosphate, ammonium sulphate, and sticky fertilizers.

Pressure-molded neoprene or rubber discs on a flexible steel cable conform to load and cushion the belt, help keep belt aligned, and are self-cleaning. The two bearings are up out of the dirt zone; have had no design failures.

Unaffected by most corrosives that damage steel, the new idler is ideal for chemical, sulphur and salt plants; corrosive and high ozone atmospheres. It is more abrasiveresistant than steel and flexes out of the way of abrasive materials.

The Limberoller weights 3/3 less than a conventional steel idler; is locked by a simple cotter key into special lightweight stands for easy installation and removal. No cover sheets are needed. Two types of stands are available: one that bolts to conventional rigid sections; and a self-supporting type that forms its own easily-erected, portable sections without bolts, by using special stiffening rails.

Because of these unique features, many companies have adopted Limberollers as standard for all belt conveyor operations. Details from Joy Mfg. Co., Oliver Bldg., Pittsburgh 22, Pa. Request Bulletin 24-42.

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Let PALTIER trained Materials Handling Engineers take a look. With properly selected equipment and flow of materials your present storage may be adequate! Storage equipment COSTS LESS than NEW FLOOR SPACE!

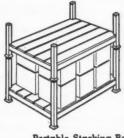
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Also live racks, palletless "Finger" racks, and other specially built items to solve your specific problems.

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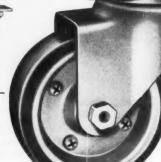
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Center forks and bearing races of heavy gauge steel

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HYDRAULIC HAND PALLET TRUCK



NO OTHER TRUCK GIVES YOU MORE FOR LESS

4600 lb Capacity

6000 lb Load Test

Full 5 inch Lift

31/4 inch Minimum Height

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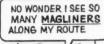


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ON DOCK PROBLEMS



NOTICE THE HEAVY DUTY BRIDGE
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Please send copy "Difficult Dock Problems and How to Solve Them."



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COMPANY_

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Canadian Factory. Magline of Canada, Limited, Renfrew, Ontario

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 Today's inquiries are tomorrow's sales—if you put them right to work. Sit on them a while and you might as well throw them out.

More than 66,000 inquiries for FLOW will go through The Industrial Publishing Corporation's reader service department this year. And they'll go through in a hurry. If they come in Monday, they go out by Wednesday. There's no delay because the job is done by automatic punch-card machines. They produce accurate, printed record cards—one for each sales lead—to make your follow-up easier.

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- Inquiry cards are carefully sorted, edited and coded.
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- Posting interpreter translates punched cards into printed notices complete with name of inquirer, title, company, address, product inquired about, name and issue of the magazine.
- Cards sorted by product, collated.
 Duplicate set of cards produced and mailed in identifying folder.
- Original cards go into current month's market data library where any or all of their information can be recalled, analyzed and reprinted on demand.

FLOW THE FIRST MAGAZINE IN MATERIAL HANDLING

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